SUPREME COURT OF THE UNITED STATES.

No. 276.

WILLIS HUMISTON, APPELLANT,

vs.

JOHN STAINTHORP AND STEPHEN SEGUINE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF NEW YORK.

GOVERNMENT PRINTING OFFICE.

1106-

SUPREME COURT OF THE UNITED STATES.

No. 276.

WILLIS HUMISTON, APPELLANT,

vs.

JOHN STAINTHORP AND STEPHEN SEGUINE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF NEW YORK.

INDEX.

	Original.	Print.
Decree	3	1
Appeal	7	3
Citation and service	9	3
Certificate	10	4
Bill	12	4
Answer	18	9
Replication	29	19
Depositions and exhibits	30	19
Decree	492	365

1107

1 Supreme Court of the United States.

WILLIS HUMISTON, appellant,
against
JOHN STAINTHORP and STEPHEN SEGUINE, respondents.
} Appeal.

To the honorable the Supreme Court of the United States:

The appeal of the above-named Willis Humiston, appellant, respectfully shows, that in 1862, said respondents, John Stainthorp and Stephen Seguine, filed their bill of complaint in the circuit court of the United States for the northern district of New York, in equity, in an action arising under the laws of the United States, granting and confirming to inventors exclusive rights to their inventions, by which bill of complaint the said John Stainthorp and Stephen Seguine, plaintiffs therein, complained of said Willis Humiston, defendant therein, for an alleged infringement and violation by him of certain unexpired letters patent of the United States granted to John Stainthorp, and by him assigned to Stephen Seguine and himself, and prayed for an account and payment by said
2 Humiston to said Stainthorp and Seguine of damages for such infringement and violation of such letters patent, and for an injunction against any further violation by said Humiston of certain rights in said bill of complaint, alleged to have been granted by said letters patent, and assigned to said Seguine one-half, whereupon the said Humiston filed his answer to said bill of complaint; and your petitioner further shows, that said parties to said action took their proofs therein, and that said action came on for hearing upon pleadings and proofs at a term of said circuit court, before Hon. Nathan K. Hall, on the 18th day of March, 1864; that said judge did decide said action, and that, pursuant to such decision, the said circuit court, on the 18th day of June, 1864, made and rendered a judgment and decree in said action to the effect and substantially in the words and figures following, to wit:

3 At a special term of the circuit court of the United States of America for the northern district of New York, in the second circuit, held at the clerk's office, in Utica, on Saturday, the 18th day of June, in the year of our Lord one thousand eight hundred and sixty-four—

Present: The honorable Nathan K. Hall, judge.

JOHN STAINTHORP and STEPHEN SEGUINE
vs.
WILLIS HUMISTON.

This cause having been argued on the pleadings and proofs therein by Mr. Geo. Gifford, for the plaintiffs, and by Messrs. M. P. Norton and J. B. Gale, for the defendant, and due deliberation had thereon,

it is ordered, adjudged, determined, and decreed, and this court, by virtue of the power and authority therein vested, doth order, adjudge, determine, and decree, that the patent referred to in the bill of complaint in this cause granted by the United States to the plaintiff, John Stainthorp, for a new and useful improvement in machines for making candles, and bearing date the sixth day of March, 1855, is a good and valid patent; that the said plain-
4 tiffs at the time of the commencement of this suit were the legal owners of such patent; that the said defendant has infringed the exclusive right of said plaintiff under said patent by the use and employment and the making and vending of the combination and device claimed in the first claim of the specification annexed to such patent; and that said plaintiffs are entitled to a permanent injunction to restrain the defendant from the use thereof, and to a decree for an account and the payment of the said plaintiffs of the gain and profits of the said defendant in the use and employment of such combination and device so patented to the said John Stainthorp, and in the making and vending of the same. And it is further ordered, adjudged, and decreed that it is referred to one of the standing masters of this court to take and state an account of the use of such combination and device by such defendant, and of the making and constructing, and likewise of the vending to others to be used, of the said combination and device referred to and claimed in the said first claim of the said patent, and of the gains and
5 profits of the said defendant in or by reason of said use, employment, making, constructing, and vending, and that such master report the same to the court with all convenient speed; and that in the coming in and confirmation of such master's report, the said defendant pay to the said plaintiffs the amount of such gains and profits so to be reported, and also the said plaintiffs' cost in this suit to be taxed, and that the said plaintiffs have execution therefor. And it is further ordered, adjudged, determined, and decreed that a permanent injunction issue out of and under the seal of this court, directed to the said defendant, his servants, workmen, and agents, restraining and enjoining them, and each of them, from the further violation or infringement in any manner whatsoever of the said letters patent of the United States so as aforesaid granted to the said John Stainthorp, and especially from the use or employment of the combination and device claimed in the first claim of said patent, and from making, or constructing, or using, or vending to others to be used, any machines for making candles containing said device or combination. And it is further ordered, adjudged, determined, and decreed that all proceedings on the part of said plaintiffs on or under this decree shall be staid until they have paid, or tendered to
6 the said defendant or his attorney, the sum of one hundred dollars, and also paid or offered to pay the amount of the fees of the witnesses examined in this case on the part of the said defendant for the purpose of proving the alienage of the plaintiff Stainthorp, and also the fees of the officer or officers for taking the testimony of such witnesses, the payment thereof being required as the

terms and conditions on which the said plaintiffs were allowed to read as evidence in this case after the argument thereof by the defendant's counsel had proceeded for some time. A record of the naturalization of said Stainthorp and all oaths and further questions are reserved until the coming in and confirmation of the said master's report.

7 Wherefore this appellant, the said Willis Humiston, feeling himself aggrieved by the said judgments and decrees of the said circuit court, hereby appeals from the same and each and every part thereof to the Supreme Court of the United States, and respectfully prays that such judgments and decrees, with the pleadings, depositions, evidence, and proceedings in said action, may be sent to the Supreme Court of the United States without delay; that the said Supreme Court will proceed to hear said action, and appeal; that said judgments and decrees of said circuit court, and each and every part thereof, may be reversed, and a decree made in said action that said bill of complaint be dismissed, and the relief demanded therein and every part thereof be denied with costs; and that such other and further decree may be made by said Supreme Court as shall be agreeable to equity and good conscience, and that this appellant may be restored to all things which he has lost by said judgment and decree of the said circuit court. And this applicant, as in duty bound, will ever pray, &c.

Dated June 23d, 1864.

MARCUS P. NORTON,
Solicitor for Appellant, Troy, N. Y

8 Foregoing appeal allowed this 24th day of June, 1864.

N. K. HALL,
District Judge of the United States
for the Northern District of New York.

9 *Citation.*

By the honorable Nathan K. Hall, one of the judges of the circuit court of the United States for the northern district of New York, in the second circuit.

[Fifty cent Rev. Stamp]

To John Stainthorp and Stephen Seguine:

Whereas Willis Humiston has lately appealed to the Supreme Court of the United States from the judgment and decree lately rendered in the circuit court of the United States for the northern district of New York, in the second circuit, made in favor of you, the said John Stainthorp and Stephen Seguine, against the said Willis Humiston, and have filed the security required by law:

You are, therefore, hereby cited to appear before the said Supreme Court, at the city of Washington, on the first Monday of December next, to do and receive what may appertain to justice to be done in the premises.

Given under my hand, at the village of Canandaigua, in the northern district of New York, in the second circuit, the 24th day of June, in the year of our Lord 1864, and of the independence of the United States the eighty-eighth.

N. K. HALL,
U. S. District Judge for the Northern District of New York.

10 Due and personal service of the within citation by copy thereof is hereby admitted this 27th day of June, 1864.

GEO. GIFFORD,
Att'y for Respondents, New York.

Filed June 24, 1864.
Refiled August 4, 1864.

11 Supreme Court of the United States.

WILLIS HUMISTON, appellant,
vs.
JOHN STAINTHORP and STEPHEN SEGUINE, respondents.

Augustus A. Boyce, clerk of the circuit court of the United States in and for the northern district of New York, in the second circuit, do hereby certify that the annexed are true and correct copies of the pleadings, proofs, and decree remaining on file in my office in the cause wherein John Stainthorp and Stephen Seguine are plaintiffs and Willis Humiston is defendant.

In testimony whereof, I have hereunto subscribed my name and have hereto affixed the seal of the court, at my office, in Utica, in said district, the 31st day of August, A. D. 1864.

[SEAL.] AUGUSTUS A. BOYCE, *Clerk.*

12 In the circuit court of the United States.—In equity.

To the honorable the judges of the circuit court for the northern district of New York:

John Stainthorp, of the city of Brooklyn, in the State of New York, doing business in the city of New York, in said State, and Stephen Seguine, of Richmond county, in said State, doing business in said city of New York, bring this their bill of complaint against Willis Humiston, defendant, residing and doing business in or near the city of Troy, in said district.

And thereupon your orators complain and say, on information and belief, that the said Stainthorp was the first and original inventor of new and useful improvements in machines for moulding candles, fully described in letters patent hereinafter mentioned, and which had not been known or used before his said invention, and which were not at the time of his application for a patent, as hereinafter mentioned, in public use or on sale with his consent or allowance.

And your orators further show unto your honors, that the said Stainthorp, being so as aforesaid the first and original inventor and

discoverer of said improvements, and being also a citizen of the United States, did, on the 6th day of March, 1855, upon due
12½ application therefor, obtain letters patent of the United States for said invention, in due form of law, under the seal of the Patent Office of the United States, signed by the Secretary of the Interior, and countersigned by the Commissioner of Patents of the United States, bearing date the said 6th day of March, 1855, whereby there was granted and secured to said Stainthorp, his heirs, administrators, or assigns, for the term of fourteen years from and after the date thereof, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention and improvements as set forth in said letters patent, and by virtue whereof said Stainthorp became and was the sole and exclusive owner of said letters patent and invention, and of all the rights and privileges granted and secured thereby, as by said letters patent, or a duly authenticated copy thereof in court to be produced, will fully and at large appear.

And your orators further show unto your honors, that afterwards, to wit, on or about the 29th day of May, 1857, the said Stainthorp did, by an instrument in writing bearing date on said 29th day of May, 1857, sell, assign, and transfer unto your orator, Seguine, one undivided fourth part of said letters patent and invention, and of all his right, title, and interest in and to the same; and that on or about the said last-mentioned day, and on or about the 27th day of July, 1857, the said Stainthorp did, by two separate instruments in writing, bearing said last-mentioned dates, respectively, sell, assign, and transfer unto one John W. Hunter another undivided fourth part of said letters patent and invention, and of all his right, title, and interest in and to the same; and that afterwards, to wit, on or about the 12th day of September, 1860, the said Hunter did, by an instrument in writing bearing date on said 12th day of September, 1860, sell, assign, and transfer unto your orator, Seguine, all his right, title, and interest in and to said letters patent and the invention thereby secured; and that each of said assignments were duly recorded in the Patent Office of the United States, as by said assignments respectively, or duly authenticated copies thereof, together with the certificates of the recording thereof in court to be produced, will fully and at large appear.

And your orators further show unto your honors, that they now are, and ever since said last-mentioned assignment have been, the sole owners of said letters patent and invention, and of all the rights and privileges granted and secured thereby; and that during the
13 time said patent and invention have been owned by the parties aforesaid, respectively, the said invention and improvements have been used by them respectively, to their great benefit and advantage, and that they are of great utility and value.

And your orators further show unto your honors, that since they became the owners thereof as aforesaid, they have invested and expended large sums of money, and have been at great trouble and expense in and about said invention, and for the purpose of carrying on the business of making and selling said machines, and making the

same profitable to themselves and useful to the public, and that your orators carry on the manufacture thereof in the city of New York, and sell said machines in said city and elsewhere; and that a large number of their said machines have been purchased by candle manufacturers in various parts of the United States, who now have, and for a long time past have had, said machines in use in the manufacture of candles, to the great benefit and advantage of the public.

And your orators further show unto your honors, that while your orators and said Hunter were the owners of said letters patent and invention as aforesaid, said patent was infringed by divers parties and firms doing business in the southern district of New York, namely: Nathaniel Hill and William Hill, of Ponghkeepsie; George Simpson, of Fishkill; Hugh McCutcheon, of Newburgh; Moses C. Belknap and Thomas M. McCann, of said Newburgh; Robert Boyd, of the city of New York; John W. Morgan, of said city; and also Adolphus Wirth, of Paterson, in the State of New Jersey; that suits in equity were brought by your orators and said Hunter for the infringement of said patent in said southern district of New York, against the persons above named, respectively, and also against said Wirth in the district of New Jersey; that the defendants in some of said suits appeared by counsel, and gave notice thereof to the complainants, counsel in said suits; that after said defendants had examined the merits and validity of the claim of your orators and said Hunter under said patent, a reasonable opportunity therefor having been allowed by the complainants in said suits, the defendants in each of said suits settled with and paid said complainants for their past infringement of said patent, and took licenses from the complainants and paid for the right to continue the use of their machines, respectively.

14 And your orators further show unto your honors, that while they and said Hunter remained and were the owners of said patent as aforesaid, and also since your orators became the owners thereof as aforesaid, they have caused notices of infringement of said patent to be given to various persons in different parts of the United States, and requested them to desist and refrain therefrom, and to pay over to the owners of said patent the damages accruing to them from said infringement; and that thereupon many persons who had infringed said patent by the manufacture, use, or sale of candle machines containing and employing the aforesaid improvements, ceased to infringe the same, and took licenses from the owners of said patent, and paid to them the damages for past infringements thereof, and also for the license and right to continue the use of said improvements.

And your orators further show unto your honors, that while they and said Hunter remained and were the owners of said patent as aforesaid, the same was infringed by one George M. Elkinton, of Philadelphia, in the eastern district of Pennsylvania, by the use of said invention and improvements in candle machines, whereupon said owners of said patent caused a suit in equity to be commenced against him for said infringements in said eastern district of Pennsylvania; that said Elkinton appeared by counsel in said suit, and put in an

answer therein, alleging as defence in said suit, among other things, that the candle machines in use by him, and which were alleged to by an infringement upon said patent, were what was known as the Humiston candle machine, and were made and sold by Willis Humiston, of Troy, New York, under letters patent granted to him by the United States, dated July 24, 1855, and denying that said machines in use by said Elkinton were an infringement upon the aforesaid patent granted to said Stainthorp; and said answer denied that said Stainthorp was the first and original inventor of the things patented in and by his said patent, or any substantial or material part thereof, but, on the contrary, alleged that the same had been known and used by other persons before the alleged invention thereof by said Stainthorp. And your orators say that said Humiston took an active part in the defence of said suit, and attended from day to day to the taking of testimony therein, and on the hearing thereof.

That said suit came to a final hearing at the session of said court holden at Philadelphia, October, 1858, on bill, answer, and proofs; and being fully argued by counsel, it was ordered, adjudged, and decreed, that the said Stainthorp was the first and original inventor of the improvements patented by him, and that the machine of defendant (Elkinton) was an infringement of the exclusive rights of your orators aforesaid. And that the said machine, known as the Humiston machine, was the same as that of the said defendant; and a copy of the opinion of the court and the decree is hereunto annexed.

That a suit in equity was commenced in the circuit court in and for the southern district of New York by your orators and said Hunter against said Willis Humiston, who is the defendant in this suit, for an infringement of said letters patent, and that said Humiston filed an answer, alleging that he made and sold candle machines under letters patent granted to him July 24, 1855, and denying that said machines infringed the patent rights of your orators as aforesaid; and said answer denied that said Stainthorp was the inventor of any material part of said improvement patented by him, and alleged that it had been previously known and used by others.

That said suit came to a final hearing at the session of said court holden at New York, March 2, 1859, on bill, answer, and proofs; and being fully argued by counsel, it was ordered, adjudged, and decreed that the said Stainthorp was the original inventor of the improvement patented by him, and that the machine known as the Humiston machine, in use by the defendant, was an infringement of the exclusive rights of your orators, and a perpetual injunction, dated the 30th day of May, 1859, was issued and granted by the court to restrain the further making, using, and selling of said machines by defendants. A copy of the opinion of the court in said suit is hereto annexed. That for considerable time after the rendition of said last-mentioned decree and after the issuing of an injunction pursuant thereto, said defendant, as your orators are informed and believe, ceased the making and selling of said machines, and stated and declared that he would thereafter desist from making and selling said machines, unless he should obtain

a license therefor under said patent granted to said Stainthorp. And your orators further show that said defendant, as they are informed and believe, about one year ago, recommenced the manufacture and sale of candle machines of the same kind, and operating in the same way as those which were used by said George M. Elkinton in Philadelphia, and which were made and sold by the defendant Humiston, and for which the aforesaid suits, one against said Elkinton and the other against said Humiston, were instituted, and which machines
16 were deemed to be infringements upon your orator's said patent; and further, that the said defendant, as your orators are informed and believe, well knowing all the facts hereinbefore set forth, has continued and now is constructing, selling, and using the said machines containing said patented improvement, in some parts thereof substantially the same in construction and operation as in the said letters patent mentioned and claimed, the exclusive right and privilege to make and use which, and vend the same to others to be used, is thus by law vested in your orators.

And so it is, may it please your honors, that the said defendant, as your orators are informed and believe, without the license of your orators, against their will, and in violation of their rights, has made, sold, and used, and intends to continue still to make, sell, and use the said improvement within said district, to wit: at or near the city of Troy aforesaid, and elsewhere in said district, and elsewhere in the United States, all of which is an infringement upon said letters patent and in violation of the same and of the rights and privileges of your orators under the said letters patent.

To the end, therefore, that the said defendant may, if he can, show why your orators should not have the relief hereby prayed, and may upon his corporeal oath, and according to his best and utmost knowledge, remembrance, information and belief, full, true, direct and perfect answers make to the premises, and to all the several matters hereinbefore stated and charged, as fully and particularly as if severally and separately interrogated as to each and every of said matters, and may be compelled to account for and pay to your orators the profits by him acquired, and the damages suffered by your orators from the aforesaid unlawful acts.

And your orators pray that said defendant, Willis Humiston, and his servants, agents, attorneys, and workmen, and each and every of them, may be restrained and enjoined, by the order and injunction of this honorable court, from directly or indirectly making, constructing, using, vending, delivering, working, or putting into practice, operation, or use, or in anywise counterfeiting or imitating the said invention, or any part thereof, or any machine or machines made in accordance therewith, or like or similar to those which he has heretofore made used or sold; and that the said defendant may be decreed to pay the costs of this suit; and that your orators may have such further
17 relief, or such other relief, as to this honorable court shall seem meet, and as shall be agreeable to equity.

May it please your honors to grant unto your orators the writ of injunction issuing out of and under the seal of this honorable court, com-

manding, enjoining, and restraining the said defendant Willis Humiston and his servants, agents, attorneys and workmen, and each and every of them, as is hereinbefore in that behalf prayed.

May it please your ohnors to grant unto your orators the writ of subpœna, issuing out of and under the seal of this honorable court, directed to the said defendant, commanding him by a certain day and under a certain penalty, to be and appear in this honorable court, then and there to answer the premises, and to stand to and abide such order and decree as may be made against him.

And your orators will ever pray, &c.

STEPHEN SEGUINE.

GEO. GIFFORD,
Sol'r, and of Counsel for Complainants.

UNITED STATES OF AMERICA,
Southern District of New York,
City and County of New York, ss:

On this sixth day of June, 1862, before me, personally appeard Stephen Seguine, one of the above named complainants, who, being by me duly sworn, did depose and say that he has heard read the foregoing bill of complaint subscribed by him, and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters therein stated on information and belief, and as to those matters he believes it to be true.

M. B. ANDRUS,
[L. S.] *Notary Public, City and County of New York.*

18 United States circuit court, northern district of New York.—In Equity.

JOHN STAINTHORP AND STEPHEN SEGUINE
vs.
WILLIS HUMISTON.

Defendant's answer to bill of complaint.

This defendant, now and at all times hereafter, saving and reserving unto himself all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainants' bill of complaint contained, for answer thereto or unto so much and such parts thereof as this defendant is advised, is or are material or necessary for him to make answer unto, answers and says, that he, said defendant, is informed and believes it to be true, as by complainants in their said bill of complaint is alleged and set up, that on or about the 6th day of March, 1855, letters patent of the United States of America were issued and delivered to John Stainthorp, one of the complainants above named, for alleged improvements in "machines for making candles;" and he is also informed and believes it to be true, that the assignments in the

said bill of complaint set forth and alleged unto Stephen Seguine and John W. Hunter, each of them for one fourth interest in the rights by the said letters patent, if any, created and secured, were made, as in said bill is set forth, the 29th day of May, 1857, and July 27th day, 1857; and he is also informed and believes it to be true, that the assignment in the said bill of complaint set forth and alleged unto Stephen Seguine, for all the right, title, and interest in and to the said letters patent created or secured in any wise was made as in said bill is set forth the 12th day of September, 1860; but for greater certainty as to the contents and the legal force and effect of the said letters patent and the said several assignments, he craves leave hereinafter to refer to the same, and when they shall be produced by complainants.

And this defendant, further answering, says that it is not true, as in the said letters patent is claimed, and in the said bill of complaint is alleged and set forth, that the said Stainthorp is the original and first inventor of the said alleged invention or improvements in the said letters patent described, or of any material part thereof in the said letters patent claimed as new, and especially is it untrue
19 that he is the first and original inventor of that part which is covered by the first specification of his claim in the words following, to wit: "The employment of the pistons D, D, formed at their upper ends into moulds for the tips of the candles in combination with the stationary candle mould, to throw out the candles in a vertical direction."

And this defendant, further answering, says that long prior to the alleged invention so claimed and described by the said John Stainthorp, one of the said complainants, in his said letters patent, the same invention was made by and is the invention of Joseph Morgan and Peter Gaskell, of the city of Manchester, United Kingdom of Great Britain, &c., and by them fully shown on sheet I, drawing A, and described in the specification of letters patent issued and delivered to said Morgan and Gaskell, under the great seal of the United Kingdom of Great Britain and Ireland, bearing date the 24th day of June, 1852, wherein was described and fully shown "pistons formed at their upper ends into moulds for the tips of the candles in combination with the stationary candle mould, to throw out candles in a vertical direction," wherein and whereby was fully shown the same identical combination of the device or devices shown in the model and drawings, and described in the specifications, and claimed in and by the first claim of the complainants' said letters patent of March 6th, 1855, for alleged improvements in machines for making candles.

And this defendant, further answering, says that the supposed invention was not, at the date of the said letters patent, nor has it since been, of any utility, benefit, or advantage whatsoever, or of any value whatever to the public as set forth in the said bill of complaint, by reason whereof the said letters patent and grant of privilege upon the said supposed invention or improvements in machines for making candles were and now are void, and of none effect or value, as this defendant is informed and believes to be true.

And this defendant, further answering, says that he has no inform-

ation, and does not know, and therefore denies that the said complainants, or either of them, have invested and expended large sums of money, and have been at great trouble and expense in and about said supposed invention for the benefit of the public, as charged in their said bill of complaint.

And this defendant, further answering, admits that said complainants have manufactured and sold a large number of machines for
20 manufacturing candles; that said machines were made in accordance to and with the drawings and specifications and claims of their said patent, in their said bill of complaint set forth, which said patent bears date March 6th, 1855, and on that day issued and delivered to the said complainant John Stainthorp ; that the said machines so manufactured were purchased by candle manufacturers, as mentioned and set forth in the said bill of complaint.

And this defendant, further answering, says that he has been informed, and believes it to be true, that the candle manufacturers who purchased said machines as alleged in complainants' said bill of complaint were in nowise benefited, nor were the public in any wise benefitted, nor were any advantages gained by the use of the said candle machines, as alleged in said bill of complaint, and this defendant alleges and avers the fact to be, upon the aforesaid information and belief, that the said candle manufacturers so purchasing the said machines, and using the same as set forth in the said bill of complaint, were greatly injured by the said purchase and use of the said machines ; that many such purchasers have since abandoned and refused to use the said machines so manufactured and sold to them by the said complainants, by reason of the failure of the said machines to make good and perfect candles, therein and thereby as described and set forth in the specification of complainants' said patent, in their said bill mentioned and described.

And this defendant, further answering, says that he has been informed, and believes it to be true, that a machine constructed and operated in accordance to and with the drawings, specifications, and model on which the said letters patent of March 6th, 1855, were issued to said complainant, Stainthorp, as set forth in the said bill of complaint, will not make good candles, and cannot be successfully used in the manufacturing of candles, by reason of which the said machines are generally condemned and refused by candle manufacturers, whereby the said machines are of no utility or advantage to the public whatever, and the said letters patent therefore entirely void and of none effect.

And this defendant, further answering, says that he has been informed, and believes it to be true, that the said supposed invention was not, nor was nor were any part or parts thereof, at the time of the making of the said letters patent in the said bill mentioned, or at any other time, of any utility or advantage to the public, and this defendant makes out the contrary of the statement in the said
21 bill in that behalf contained, by the denial and allegations or averments hereinbefore contained.

And this defendant, further answering, says that he has been informed, and believes it to be true, and therefore alleges and avers

the fact to be that the said complainants have long since abandoned and refused to use that part of their said supposed invention and improvements described and set forth in the specifications and last claim thereof, and described in the drawings attached to, and belonging with, and a part of the said complainants' said patent in their said bill of complaint mentioned and described, and known by the second claim of their said patent as "the combination of the rack tip bar and clasps, constructed and arranged substantially as described, and for the purposes specified," in their said patent; that said complainants have substituted in place and stead of their said abandoned and useless device the invention and improvements patented to this defendant on the 24th day of July, 1855, and reissued to defendant bearing date the 22d day of January, 1861, which said invention and improvements are set forth in the specifications and third and fourth claims of the said reissued patent bearing date as last aforesaid; that without "the clamping of the candles in the position in which they are driven or forced from the moulds or tubes (B,) and thus and thereby holding them during the operation of casting or moulding candles in the said moulds or tubes (B) directly below, until the said candles in the said clamps are ready to be removed therefrom, substantially as described and set forth in said reissued letters patent" of this defendant, candles cannot be successfully and rapidly manufactured in large quantities at one and the same time, whereby, and by means of which, the said complainants' said letters patent, in their said bill of complaint mentioned and described, are wholly and entirely void, and of none effect or value whatever.

And this defendant, further answering, says that he does not know, and has no information sufficient to form a belief, and he therefore denies that the said complainants' said letters patent, or any part thereof were infringed in the southern district of New York, and in the district of New Jersey, by the parties and firms, or either of them, named and set forth in the said bill of complaint, or that suits in equity, by the said complainants, or either of them, were brought against the said parties or firms or either of them, for an infringement of their said letters patent in the said southern district of New York, or in the said district of New Jersey, or that said parties and
22 firms, or either of them, examined or admitted the merits and validity of the claims of the said complainants in said alleged suits, or that said alleged defendants settled with and paid complainants for any infringement of the said letters patent, or any part thereof, or that said defendants therein took license from complainants to use and continue the use of their said machines, alleged to have been made in accordance to and with the specification and claims of their said patent, as alleged and set forth in complainants' said bill of complaint in this cause.

And this defendant, further answering, says that he has no knowledge, and has not been informed, and therefore denies that the said complainants, or either of them, have caused notices of infringement of said patent to be given to various persons in different parts of the United States, and requested them to desist and refrain therefrom,

and to pay over to the owners of the said patent the damages accruing to them from said infringements, or that thereafter many persons ceased to infringe the said complainants' said patent, and took licenses from the owners of said patent to manufacture or to continue the use of complainants' said supposed improvements in candle machines, or any part thereof, or paid to complainants any damage whatever for past infringements of the said patent, or any part of the same, as alleged and set forth in said complainants' said bill of complaint.

And this defendant, further answering, says that he is informed and believes, and charges the truth to be, that if the said complainants, or either of them, have at any time whatever received or collected any money or sums of money from any person or persons within the United States of America for an alleged infringement of the complainants' said letters patent, or any part thereof, as alleged and set forth in their said bill of complaint, the same were so paid without the knowledge of the fact of the invalidity of complainants' said letters patent, as hereinbefore alleged and set forth, and upon the threats made by the complainants of immediate litigation, unless the required sum of money was paid, as by them demanded, and that rather than incur the expense and trouble of such threatened litigation, the said alleged infringement was so settled, which was in error and contrary to equity and the law, and in violation of the rights of the said parties or firms named and set forth in said bill of complaint.

23 And this defendant, further answering, says that he is informed and believes, and charges the fact and the truth to be, that candle manufacturers within the said United States who have used candle machines made by said complainants, at the city of New York, under and in accordance to and with the specifications and claims of their said patent, as set forth in their said bill of complaint, have generally abandoned such machines as worthless, and refused to use the same because good candles could not be made in or by them, in any sufficient quantity or number at one and the same time; that such candle manufacturers, so abandoning and refusing to use complainants' said machines, have generally applied to this defendant for candle machines made under and in accordance to and with letters patent issued to defendant on the 23d day of December, 1851, and reissued on the 22d day of January, 1861, and other certain letters patent issued on the 24th day of July, 1855, and reissued on the 22d day of January, 1861; that this defendant has generally furnished said applicants with candle machines made by virtue of his said patents, and in accordance to and with the specifications and claims thereof, and not otherwise; that said machines so furnished work well and make good candles, in very large quantities or numbers, at one and the same time and operation, and give entire and complete satisfaction to such persons who have had and now have the same in use.

And this defendant, furthering answering, admits that a suit in equity was commenced by complainants against one "George M. Elkinton," of the city of Philadelphia and eastern district of Pennsylvania, as alleged and set forth in said complainants' said bill of

complaint; that an answer was put in in said suit wherein and whereby, among other things, the alleged infriningemen twas denied by the said Elkinton as a part of his defence therein; that said machines then in use by the said Elkinton were not an infringement upon the said letters patent granted to said Stainthorp as aforesaid; that the said answer denied that said Stainthorp was the first and original inventor of the things patented in and by his said patent, or of any material or substantial part thereof, and that the same had been known and used by other persons before the alleged invention thereof by the complainant Stainthorp; and this defendant believes said answer to have been true so far as given; and this defendant further admits that said suit was brought to a final hearing on bill, answer, and proofs, and that a decree was entered therein as alleged in said bill of complaint.

24 And this defendant, further answering, admits that a suit was commenced in the southern district of New York against this defendant by said complainants as alleged in their said bill of complaint; that this defendant put in an answer in that suit, among other things, denying any infringement of the complainants' said letters patent, or any part thereof; that said Stainthorp was not the original and first inventor of any material and substantial part of the said alleged improvements patented to said Stainthorp as in said bill of complaint alleged and set forth, and that the same had been a long time before known and used by others; and this defendant further admits, that the said suit came on for final hearing upon bill, answer and proofs, that a decree was therein entered as alleged in said complainants' said bill of complaint, and this defendant believes said answer to have been true.

And this defendant, further answering, says, and charges the truth to be, that since the granting of the decrees mentioned and set forth in the said bill of complaint, and since the commencement of this suit, new proofs and new matter have been discovered in relation to the original and first discoverer or inventor of the alleged invention or combination of devices set forth and covered by the specification, and the first claim of complainants' said letters patent, which show, beyond doubt, that the same devices were made, and were combined in the same identical manner, and operated by them for the same purpose, and in general or public use, at the city of Manchester, England, by the said "Morgan & Gaskell," in the fore part of the year 1852, as hereinbefore stated, which was a period of nearly three years before the alleged application for letters patent by the said John Stainthorp, upon which his said patent of March 6th, 1855, for an alleged improvement in machines for making candles was issued.

And this defendant, further answering, says, and charges the fact and truth to be, that since the said final hearing upon pleadings and proofs, and since the said decrees in the said suits, and before the commencement of this suit, the said complainants have abandoned, as useless, that part of their said machine and alleged improvement which relates to and which is covered by the said second and last claim, and the specification of their said patent relating thereto, as hereinbefore alleged and set forth; that by said abandonment of their said "rack, tip, bar and clasps, constructed and arranged as described"

and set forth in the specification of their said patent, candles
25 could not be well and successfully manufactured by that other
part of their said machine which relates to and which is covered by the first claim of their said patent, whereby the entire combination of devices of that part of complainants' said patent, to wit, "the employment of the pistons (D, D,) formed at their upper ends into moulds for the tips of the candles in combination with stationary candle moulds, to throw out the candles in a vertical direction" substantially as described in their said specification, is useless and of no value whatever to the public, as hereinbefore set forth.

And this defendant, further answering, says, that since the granting of the decrees in the said suits as set forth in complainants' said bill of complaint, and within about two years before the commencement of this suit, the said complainants' said machines made and sold by them, under and in accordance to and with the drawings, specifications and claims of their said letters patent, and put in use by the said parties or firms as set forth in their said bill of complaint, have been generally condemned as entirely useless, and by the said candle manufacturers rejected for want of utility in each and every part of the said alleged patented improvements; that since the said final hearings, and since the granting of the said decrees, the said complainants' alleged invention and improvements in machines for making candles has proven, by actual trial or use thereof, of no practical utility or of any advantage or benefit to the public whatever.

And this defendant, further answering, says that he has for no considerable length of time since 1860 ceased from manufacturing candle machines containing the invention and improvements patented to defendant as aforesaid, which said machines did not in any wise contain the alleged improvements set forth in complainants' said patent, or any part thereof, and which machines contained only the said improvements mentioned and set forth in the drawings, specifications and claims of defendant's said letters patent.

And this defendant, further answering, denies that he ever at any time stated and declared that he would desist from making and selling said machines, or that he ever promised or desired to obtain any license whatever from said Stainthorp under said complainants' said patent; and this defendant further denies that there is any part of their said machine or patent in any wise desired by this defendant, but, on the contrary, avers that there is no part of said machine or of
said patent that this defendant would use or cause to be used
26 upon his said patented machines, were the said complainants to freely consent thereto.

And this defendant, further answering, says that he is informed, and believes it to be true, that the said complainants have been and now are engaged in the manufacturing of candle machines, but denies that the same were and are made in accordance to and with the said alleged invention or improvement mentioned and set forth in their said letters patent; and this defendant also denies that the said complainants have ever, at any time since the said final hearings, and since the said decrees, manufactured and put into successful use or

operation in the United States or elsewhere, candle machines of the kind or character mentioned, described and set forth in their said bill of complaint, or in the said letters patent therein named and described.

And this defendant, further answering, denies that he has made, sold, and used, or intends to make, sell, and use any "candle machines" according to and containing the alleged improvements, or any part thereof, of the said complainant, John Stainthorp, as set forth in his specification and claims annexed to his said letters patent mentioned and referred in the said complainants' said bill of complaint, as secured to said Stainthorp by the said letters patent, and by him assigned to said complainants, as alleged in their said bill of complaint; and this defendant further denies that he has, at any time since the said final hearings, or since the said decrees were granted in the said suits, as alleged in said bill of complaint, manufactured or sold, or caused to be manufactured or sold, any candle or other machines in violation of the alleged exclusive right and privileges of the said complainants, as in their said bill of complaint is charged and set forth.

And this defendant, further answering, denies that he is now or has been engaged in the manufacture or sale of the said alleged improvement in machines for making candles, or any candle or other machine which in any wise infringes the said patent or any part thereof, at the city of Troy, county of Rensselaer, State of New York, or at any other place whatsoever, as charged in their said bill of complaint; and this defendant also denies that he has in any way or manner whatever infringed or violated the exclusive rights and privileges of the said complainants, under their said letters patent as charged in their said bill of complaint, or in any wise damaged the business or alleged patented rights and privileges of the said complainants, as they have alleged in their said bill of complaint.

27 And this defendant, further answering, says that he does not, and does not wish or intend to, infringe or violate in any manner whatever the said complainants' said letters patent, or any part thereof, or any of the alleged rights or privileges secured to the said complainants, thereby and by virtue of the said assignments as set forth in their said bill of complaint.

And this defendant, further answering, denies that he has made or is now making any gains or profits whatever by manufacturing, using, or vending the said candle machines, or the alleged improvements, as charged and set forth in the said bill of complaint, or that he, the said defendant, has prevented or is now preventing the said complainants from making or receiving any gains and profits whatever, or that the said alleged exclusive right and privilege claimed by the said complainants is of the value described and set forth in the said bill of complaint, or of any value whatever.

And this defendant, further answering, avers, that if, at any time, he (defendant) might desire to manufacture, use, or vend the entire alleged improvements, or any part or parts thereof, described and set forth in complainants' said letters patent in the bill of complaint mentioned

he would have the right and privilege so to do under and by virtue of an instrument in writing, signed and sealed by the said complainants John Stainthorp, Stephen Seguine, also by John W. Hunter, a former and joint owner of said patent with the said Stainthorp and Seguine, on the third day of February, A. D. 1860, and which was duly recorded in the United States Patent Office on the 11th day of July, 1861, in liber G^6, page 317, of Transfers of Patents, as this defendant is informed and believes to be true.

And this defendant, further answering, says that he has been informed, and believes it to be true, that the said complainant John Stainthorp was not, at the time of the issue and delivery to him of the said letters patent in complainants' said bill of complaint set forth, a citizen of the United States of America, as alleged and set forth in their said bill of complaint, but, on the contrary, was a citizen or subject of the United Kingdom of Great Britain at the time of the making of application for a patent upon said alleged improvement in machines for making candles, and also at the time of the granting and delivery of the said letters patent to the said John Stainthorp.

28 And this defendant, further answering, avers that the said John Stainthorp described and claimed in the specification of the application for a patent upon improvement in machines for moulding candles, filed in the United States Patent Office November 18, 1854, and upon which application the said complainants' said patent, issued March 6, 1855, the employment of pistons in combination with candle-moulds, substantially as therein described, and for the purposes specified therein; also "forming the upper end of the pistons into moulds for the tips of the candles, substantially as therein specified," also "the combination of the rack, the tip bar and clasps constructed and arranged substantially in the manner and for the purposes specified therein; that the said John Stainthorp was notified by the honorable Commissioner of Patents in writing, under date of February 7, 1855, that the features, invention, or improvements thus described and claimed in and by that application, under the said specification, and by the said first, second, and third claims thereof, were not then new with said Stainthorp as the original and first inventor or discoverer thereof; that the same had long before that time been known and in public use and on sale, by reason of which no patent could be granted thereon; whereupon the said John Stainthorp, by his attorney, Charles Everett, did on the 13th day of February, 1855, or thereabout, withdraw in writing each of the said claims, and the entire alleged right to a patent upon the said alleged improvements hereinbefore described, by which act, thus voluntarily done, the said Stainthorp abandoned the said alleged improvements, on the ground of want of novelty by him, and thereupon accepted and received letters patent with two, and limited claims upon the said alleged improvements, to wit: first, a combination of pistons with stationary candle-moulds, which are two old and well-known devices in an old and well-known combination performing no new or valuable functions, all of which had been known and in use for more than two years before the said application for the patent set up in the said complainants' said bill of complaint; and

second, the combination of a "rack, tip bar," an old device, and found in the patent granted to defendant December 23, 1851, and on that day patented to defendant, and with a device termed by said Stainthorp "clasps," which said devices thus combined were, and are of no utility whatever, but, on the contrary, were and are a great damage in the manufacturing of candles, whereby the whole machine is a failure, as hereinbefore alleged and set forth.

29 And this defendant, further answering, says, and insists, that, for the aforesaid reasons, he, this defendant, ought not to be restrained by any order or injunction of this hon. court, or required to render such accounts as in said bill of complaint mentioned; and this defendant submits and insists, that, under the circumstances, for the reasons hereinbefore stated, the said letters patent, and rights and privileges supposed to be thereby granted, were and are null and void; and that the said complainants are not entitled to any discovery from, or any relief against, this defendant as in said bill of complaint prayed for.

And this defendant claims the full benefit of any and all objections, and to the same extent as if he had demurred or pleaded to the said bill of complaint, without this, that there is any other matter, cause, or thing in the said complainants' said bill of complaint contained material or effectual in the law for this defendant to make answer unto, and not herein and hereby well and sufficiently answered, avoided, traversed, or denied, is true, to the knowledge and belief of the defendant.

All which matters and things this defendant is willing and ready to aver, maintain, and prove, as this hon. court shall direct; and this defendant humbly prays to be hence dismissed with his just and reasonable costs and charges in the law in this behalf, most wrongfully sustained.

WILLIS HUMISTON.

MARCUS P. NORTON,
Solicitor for Defendant, Troy, N. Y.
DAVID L. SEYMOUR,
Of Counsel, Troy, N. Y.

UNITED STATES OF AMERICA,
Northern District of New York, Rens. Co., ss:

On this 29th day of November, 1862, before the undersigned, a United States commissioner, personally appeared Willis Humiston, the above-named defendant, who, being by me duly sworn, did depose and say: that he has heard read the foregoing answer by him subscribed, and knows the contents thereof; that the statements made in the said answer, so far as they are made of his own knowledge, are true, and so far as they are made upon information derived from others, he believes the same to be true.

C. R. INGALLS,
United States Commissioner, Troy, N. Y.

United States circuit court, northern district of New York.

JOHN STAINTHORP AND STEPHEN SEGUINE,
vs.
WILLIS HUMISTON. } In equity.

The replication of the above-named complainants to the answer of the above-named defendant.

These repliants, saving and reserving to themselves now and at all times hereafter all and all manner of benefit and advantage of exception which may be had or taken to the manifold insufficiencies of the said answer for replication thereunto, say that they will aver, maintain, and prove their bill of complaint to be true, certain, and sufficient in the law to be answered unto; and that the said answer of the said defendant is uncertain, untrue, and insufficient to be replied unto by these repliants, without this, that any other matter or thing whatsoever in the said answer contained material or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed, and avoided, traversed or denied is true; all which matters and things these repliants are and will be ready to aver, maintain, and prove as this honorable court shall direct and humbly pray as in and by their said bill they have already prayed.

GEORGE GIFFORD,
Solicitor and of Counsel for Complainants.

30 Circuit court of the United States, northern district of New York, in the 2d circuit. In equity.

JOHN STAINTHORP AND STEPHEN SEGUINE,
vs.
WILLIS HUMISTON.

Proof for defendant.

Testimony taken by and before me, Augustus A. Boyce, an examiner in and for said court, at the office of M. P. Norton, esq., in the city of Troy, on the following days, to wit, July 6 and 7, 1863, as hereinafter specified, pursuant to notice duly given and filed.

Mr. M. P. Norton appears as defendant's counsel.

Mr. M. B. Andrus appears as plaintiffs' counsel.

Defendant's counsel first offers in evidence:

1st. A certified *fac simile* copy from files of the Patent Office of the file wrapper and contents in the matter of the letters patent granted to John Stainthorp March 6, 1855, for improvement in machines in making candles, No. 12492, consisting of his petition for letters patent to the Commissioner of Patents, and his original specification, dated "Buffalo, Nov. 15, 1854," and his oath attached thereto, and an amendment of said specification, signed John Stainthrop, by his attorney, Charles Everett. Also, a further amendment, signed in the same way, and filed in the office Nov. 18, 1854. Also, a letter from the Commissioner of Patents to said Stainthorp, dated Dec. 27th, 1854. Also, a

power of attorney appointing Charles Everett his attorney, and dated Nov. 28, 1854. Also, a letter bearing date February 5, 1855, to the Commissioner of Patents by said Charles Everett. Also, a letter dated February 7, 1855, U. S. Patent Office, signed Charles Mason, Commissioner, and addressed John Stainthorp, and Charles Everett, Washington, D. C. Also, a letter to Commissioner of Patents, dated February 13, 1855, signed John Stainthorp, by his attorney, Charles Everett. Also, the file wrapper, marked "improvement in machines for making candles" and marked 12492. To all which plaintiffs' counsel here objects. The examiner here marks said parcel of certified papers as defendant's Exhibit (A.)

31 Defendant's counsel then offers a certified copy from the English records of patents deposited in the United States Patent Office, in the matter of the patent granted to Joseph Morgan, A. D. 1834, and numbered 6610, for apparatus for making mould candles, which consists of said Morgan's specification of his patent of 1834 upon apparatus for making mould candles, and numbered as aforesaid, and dated the 15th day of November, A. D. 1834, and acknowledged by said Morgan before "the lord king in his chancery" on the same day, to wit, 15th day of November, 1834, including also the drawing attached to his said patent and marked A. D. 1834, May 22d, number 6610, Morgan's specification. Also a description of the said drawings of the said date and said number, and which said parcel of certified papers and drawings is marked by the examiner as defendant's Exhibit B. To the reception in evidence of which complainants' counsel objects.

Defendant's counsel further offers a certified a copy from the English patent reports in the library of the United States Patent Office of the drawings in the matter of the patent granted Morgan and Gaskell June 24, 1852, number 14186, which drawing is marked sheet one, "drawing" (A,) Morgan and Gaskell's specification. Which said certified drawing the examiner here marks as defendant's exhibit (C,) to the reception in evidence of which the complainants' counsel objects.

Defendant's counsel now offers a patented specification and drawing of Joseph Morgan and Peter Gaskell upon manufacture of candles by machinery, dated 24th day of June, 1852, and enrolled 24th day of December, A. D. 1852, and numbered 14186, and printed by George Edward Eyre and William Spottiswood, and published at the Great Seal Patent Office, which said printed specification and drawings the examiner here marks as defendant's Exhibit (D).

To the reception in evidence of which the complainants' counsel objects.

Defendant's counsel then offers a certified copy of a patent, including drawings and specifications, granted to John Stainthorp, one of the complainants, March 6, 1855, and which is marked by examiner as defendant's Exhibit (E).

Defendant,s counsel then offers in evidence certified *fac simile* copy from the files of the Patent Office of the file wrapper and contents in the matter of the letters patent granted Willis Humiston July 24,

1855, consisting of his petition for a patent, oath, and specification, and each dated 17th day of May, A. D. 1855; also file wrapper
32 marked "improvement in candle-mould apparatus, number 13334," and which is here marked by examiner as defendant's exhibit (F,) to the reception of which plaintiff's counsel here objects.

Defendants' counsel also offers certified *fac simile* copy from the files of the United States Patent Office of the file wrapper and contents in the matter of the reissued letters patent granted Willis Humiston January 22d, 1861, number 26, consisting of his petition for a reissue; also, of his affidavit, subscribed and sworn to the 19th day of December, 1860; also, the specifications dated said 19th day of December, 1860, and signed Willis Humiston; also, a letter dated December 25, 1860, to the Commissioner of Patents, signed Marcus P. Norton, attorney for Humiston.

Also, the report of the revising board of the United States Patent Office, dated January 16, 1861, and signed Wm. B. Taylor and S. R. Peale, revising examiners; also, the approval and allowance of a patent according to the said report, dated United States Patent Office January 16, 1861, signed S. T. Schigirt, acting commissioner; also file wrapper marked "improvement in machines for moulding candles revised and approved January 17, 1861, number 26, whole number 1,031 and which last mentioned parcel of certified papers is here marked by the examiner as exhibit (G). To the reception in evidence of which the complainant's counsel objects.

Examination adjourned to 9 a. m. to-morrow.

SATURDAY, July 7.

Counsel present as yesterday, and examination proceeds.

Cyrus A. Sherwood, sworn for defendant, and examined by Mr. Norton, testifies as follows:

Question 1. State your name, age, residence, and occupation?

Answer. My name is Cyrus A. Sherwood; age, 45; residence Troy and my occupation is that of machinist. I have lived in Troy since 1837, and have followed the business of machinist for twenty years last past.

Question 2. State whether or not you are familiar with different kinds of machinery, and whether or not you have been accustomed to make models of new inventions; and if so, state fully in relation thereto.

Answer. I am familiar with the different kinds of machinery, and I have made a large number of such models, but I cannot say how many. It is about fifteen years since I began at this class of
33 work, and during that time I have each year made more or less of models for different persons.

Question 3. Have you ever been examined as an expert in patent cases; and if so, in about how many?

Answer. I have I think, in three cases, I am not positive as to the number.

Question 4. Have you made for the defendant Humiston moulds and patterns of the different parts or devices of the candle machine pat-

ented to him July 24, 1855, and reissued, bearing date January 22, 1861? And if so, state fully on that subject.

Answer. I have made for defendant moulds for casting candle-moulds, and have made patterns for other devices belonging to his candle machine.

Question 5. Have you carefully examined the candle machine known as the Humiston machine, and marked here by examiner as defendant's exhibit (H)?

Answer. I have.

Question 6. Do you understand the principle and operation of the same?

Answer. I do.

Question 7. Have you carefully read the printed specification and claims of John Stainthorp's patent, dated March 6, 1855, upon alleged improvement in machines for making candles, and here marked by examiner as defendant's exhibit (I); and if so, do you understand the same, and especially that part covered by the first claim thereof?

Complainants' counsel objects to this being put in evidence in this case.

Answer. I have so examined the same, and I do understand the same, especially that part covered by the first claim thereof.

Question 8. Have you carefully examined a candle machine marked by "cast letters" "John Stainthorp, New York, patented March 6, 1855," and if so, do you understand that machine, which machine is here marked by examiner as defendant's exhibit (J)?

Answer. I have, and I understand the same.

Question 9. Having examined the Humiston machine marked defendant's exhibit H, as stated in your answer to the 5th question above, do you understand that machine?

Answer. I do understand it.

Question 10. For about how many years have you known and been familiar with the said Humiston machine?

34 Answer. I should think for between six and seven years.

Question 11. Do you find in the said Humiston machine the combination of devices mentioned, described, and claimed by the first claim of the said Stainthorp patent?

Answer. I do not find the same combination.

Question 12. Do you find the same combination of candle-moulds and piston in the said Humiston machine, marked exhibit (H), as that contained in the Stainthorp machine marked exhibit (J)?

Answer. I do not.

Question 13. Is there any difference, in your judgment as a mechanic, between the "tip-mould" and "drive-rod" combined in the said Humiston machine and the pistons shown in the said Stainthorp machines, and described in Stainthorp's said patent, and especially the first claim thereof?

Answer. I find a great difference between the two.

Question 14. In your judgment, does that difference constitute an essential and important device for the successful and rapid manufacture of candles in large quantities at the same time and operation of the machine?

Answer. It does, in my judgment.

Question 15. State the effect which would be likely to be produced upon the tips of candles in being forced from a large number of candle-moulds where the pistons are constructed like those found in the said Stainthorp's machine, marked exhibit (J).

Objected to by complainants' counsel, because it does not appear that the witness is familiar with the use of machines like the one referred to in the question, nor does it appear that the witness is at all familiar with the use of candle machines for making candles, nor does it appear that the machine referred to is constructed like the one described and patented by the Stainthorp patent.

Answer. They would be likely to be marred and broken off.

Question 15. State the effect which, in your judgment, would be produced by forcing candles from candle-moulds in large quantities by the use of "tipped moulds and drive rods" combined, as found within said Humiston machine, marked exhibit (H.)

Objected to as being indefinite, and because the witness does not appear to be an expert in the manufacture of candles by the use of the devices referred to in the question.

35 Answer. The tip mould, being flexible, by a universal joint or connexion, allow the candles to yield to any inequality of the holder or clamps, preventing the tops of the candles from being bruised or broke.

Question 16. How and when is this effect referred to in your last answer produced?

Objected to as last above.

Answer. It is produced by reason of the flexibility of the tip mould, and this is done when the tip is withdrawn from the candle.

Question 17. At what time and when is the candle required to yield, and requiring this flexible tip mould to prevent the tip of the candle from being broken, as stated by you in your last answer?

Same objection as above.

Answer. As soon as the candle enters the clamps and while in the clamps above the candle moulds.

Defendant's counsel here offers in evidence a certified duplicate model from the Patent Office, illustrating patent granted to John Stainthorp, March 6, 1855, for candle-moulding machines, and which is here marked by examiner as defendant's exhibit (K,) and to the reception in evidence of which the complainants' counsel objects.

Question 18. Look at exhibit (K) now shown you, and state whether, in your judgment, candles could be made successfully and without injury to the tips and body of the candle by a machine constructed with all the different devices, and upon principles represented by said exhibit (K).

Objected to by complainants' counsel.

Answer. In my judgment they could not.

Question 19. In the absence of the rack and tip bar shown in this exhibit, in your judgment could candles be made in and forced from the candle-moulds and by the piston without injury to the candles?

Objected to.

Answer. In my judgment they could not.

Question 20. In your judgment, would the use of pistons formed at their upper ends into moulds for the tips of candle, in combination with stationary candle-moulds, to throw out candles in a vertical direction, as shown in the said exhibit (K.) and described in said Stainthorp's patent, be of any use, or could any practical or beneficial result be attained thereby, when the same is taken in combination with different clamps above the candle-moulds, than those shown upon said exhibit, or if taken without any clamps whatever?

Objected to for reason before stated, and because leading and indefinite and uncertain.

36 Answer. I should have to answer that in two ways: first, with proper clamps attached, there would be a practical result in a measure; second, without said clamps it could not be used with any practical effect.

Question 21. What would you consider proper clamps to be used, as stated in your last answer?

Objected to.

Answer. Two pieces of board or plank with half circles cut in each piece, corresponding with the number of moulds in said machine, clamped together by a screw or an eccentric cam or lever lying directly over the moulds, thereby receiving the candles when they are forced up from the moulds.

Question 22. In case the clamps described in your last answer were used upon a candle machine, could pistons formed at their upper ends into moulds for the tips of the candles, as shown in exhibit (K,) and Stainthorp's machine, marked exhibit (J,) and described in said Stainthorp's patent, be used without injury to the tips and body of the candles when being forced from the candle-moulds into the said rack?

Objected to.

Answer. In my judgment it could not.

Question 23. In your judgment, could a device constructed and combined as and for the purposes set forth in the first claim of Stainthorp's said patent, taken separate and by itself, be of any practical use, or could beneficial results be attained thereby?

Objected to.

Answer. In my judgment it could not.

Question 24. Do you find the same kind of rack and tip bar upon Stainthorp's machine, marked exhibit (J,) as upon the exhibit (K)?

Objected to.

Answer. I do not.

Question 25. Do you find upon Stainthorp's machine, marked exhibit (J,) clamps constructed similar to and containing the same principle of clamp upon the Humiston machine, marked exhibit (H)?

Answer. I do.

Question 26. State whether a machine constructed like exhibit (K) contains the same invention or principle, or whether the effect and operation is the same as the Humiston machine, marked exhibit (H)?

Objected to.

Answer. In my judgment it is not the same.

37 Question 27. Look at the exhibit shown you, and now marked

as defendant's exhibit (L,) and state whether or not you find a candle-tip mould in said exhibit like a candle-tip mould in exhibit here also marked (M,) and shown you?

Answer. I find them very similar; in effect the same.

Defendant's counsel here offers in evidence exhibit (L,) consisting of a candle-mould and a candle-tip mould, the same being taken from the Morgan machine, and each fully described and shown in the drawings of Morgan's English patent, dated May 22, 1834, number 6610, as appears by certified copy of said patent marked by the examiner defendant's exhibit (B,) and also shown and described in combination Morgan and Gaskell's English patent, dated June 24, 1852, number 14186. That sheet one drawing (A) as fully appears from defendant's exhibits (C and D,) marked by examiner July 6, 1863.

Plaintiffs' counsel objects to the introduction in evidence of the above exhibit (L,) and he also objects to all the preceding statement of the defendant's counsel accompanying his offer of said exhibit n evidence, and objects to the same being taken in evidence in this case, or in any way used therein.

Defendant's counsel further offers in evidence exhibit (M,) consisting of a candle-mould, candle, and a tip-mould with drive-rod attached thereunto, and all constituting a device found in Humiston's said candle machine.

Plaintiffs' counsel objects to the introduction in evidence of said last-mentioned exhibit, and also to the statement of defendant's counsel accompanying his offer.

Recess to 2 p. m.

At 2 p. m. examination continued. The witness Sherwood further testifies, viz:

Question 28. Look at exhibit (D,) and also at exhibit (C,) sheet one, drawing (A,) figures 1 and 2 of Morgan and Gaskell's patent of June 24, 1852, number 14,186, and state whether or not you find a mould with a tip-mould in combination therewith, and like exhibit (L)?

Objected to by plaintiffs' counsel, because witness's attention was not called to the particular description or drawing from which he is asked to state the subject-matter inquired about.

Answer. I do.

Question 29. Look at exhibit (M,) now shown you, and state whether or not you find in those exhibits a mould having a tip-mould in combination therewith, like figures 1 and 2, sheet one, drawing (A,)
38 of exhibits (D and C,) each referring to the Morgan and Gaskell patent of June 24, 1852, upon improvement in candle machines.

Objected to.

Answer. I find them very similar, both having swivel or universal joints.

Question 30. Have you read the specification and examined the drawings of exhibit (B) of Joseph Morgan's English patent of 1834, number 6610, for apparatus for making mould candles? and if so, state whether or not you find described in that specification candle-moulds with candle-tip moulds in combination therewith, substantially the

same as the combination of candle-tip moulds with the candle-moulds of exhibit (L) and exhibit (M).

Answer. I have read the specifications and examined the drawings, and find the combination therein the same as in combination in exhibits (L and M).

Question 31. What combination do you refer to in your last answer? State the parts and their combination and their purposes.

Answer. The combination consists in the connexion of tip-moulds with the piston by a universal joint, also in connexion with the stationary moulds.

Question 32. What is the purpose or use of the stationary moulds?

Answer. For casting candles.

Question 33. What is the purpose or use of the candle-tip mould, combined with a driving rod by means of the loose or universal joint?

Answer. First, to form a tip on the candle; second, to receive it from the moulds without marring it or breaking the tip. I mean by receiving the candle, the forcing it out from the moulds.

Question 34. By the use of the said candle-mould, candle-tip mould combined therewith, and also combined with the drive-rod below, by means of a loose or universal joint, could candles be forced from said moulds in the horizontal, vertical, or other directions?

Answer. They can.

C. A. SHERWOOD.

Sworn and subscribed before me July 7, 1863.

A. A. BOYCE, *U. S. Examiner.*

On cross-examination by plaintiffs' counsel, the said Sherwood further testifies:

Question 35. In what particular patent cases have you heretofore been examined as an expert?

39 Answer. In the two cases of the Stanley coal-burner, being stove cases, and in relation to Mr. Humiston's candle machines, about a year ago; also, the patent right pistol case at Plattsburg. This is all.

Question 36. Were you examined as an expert in the cases you have mentioned in open court before the judge, or did your testimony in those cases consist of affidavits which were afterwards read there?

Answer. In one case it was an affidavit. In the other cases it was in open court. In Humiston's candle-machine case it was an affidavit used on the motion for an injunction.

Question 37. By whom was that affidavit prepared?

Answer. By Mr. Norton.

Question 38. Specify the different kinds of machinery which you have made.

Answer. I have been in the habit of working at all kinds, both making and repairing.

Question 39. Do you carry on business for yourself, or are you in the employ of another person; and if so, whom?

Answer. I am carrying on business for myself, and have for the last six years.

Question 40. What work have you done for Mr. Humiston, the defendant?

Answer. I made the moulds to cast the candle-moulds in, tip-moulds, and their cores. The last were principal parts I did for defendant.

Question 41. How long have you been employed by the defendant in doing this kind of work for him?

Answer. I should say some fifteen years in making these moulds and patterns and cores for them.

Question 42. Did you ever build a candle machine for making candles?

Answer. I have.

Question 43. Have you ever operated one?

Answer. Not directly myself. I have superintended the operation.

Question 44. Where have you superintended their operation, and when?

Answer. In my shop, 521 River street, in Troy, about six years ago, while I was building them. I have built several of them.

Question 45. When did you build the first candle machine?

Answer. About six years ago.

Question 46. When did you build the last one?

Answer. I built the last one about six months after the first. I worked at it all the time.

Question 47. For whom did you build these machines?

Answer. For Henry S. Chichester, of Troy.

Question 48. Did he employ you to do them?

Answer. Yes, sir.

Question 49. Did those machines which you built have stationary candle-moulds for holding the candles, and piston or drive-rods formed at their upper ends into tip-moulds, by means of which the candles were ejected from the moulds in a vertical direction.

Answer. In the first place they had stationary candle-moulds; they had tip-moulds and drive-rods connected. These drive-rods were short and forced the candles but a little distance. The candle was then drawn out by clamps, experimented with those I built.

Question 50. Why did you cease to build them?

Answer. Because the pay was not very good.

Question 51. Then you never made or operated what is known as the Stainthorp or Humiston machines, did you?

Answer. I never used one of them. I have forced candles out of a Humiston machine merely to see how they worked.

Question 52. Please describe the Humiston machine referred to by you in your answer to the 5th and 6th direct interrogatories.

Answer. In the first place there is a frame of plank, two reservoirs for tallow-forming bed plates for the upper ends of stationary candle-moulds, the lower ends of the candle-moulds secured to a part of the frame, the tip-moulds connected to the drive-rods by a universal joint; the lower end of the drive-rods is connected to a frame, that frame running in guides on each end of the machine; that frame is made to raise and lower, the lower end of the pistons being connected with

it. On each end of this movable frame are two racks; the racks are operated by two pinions on each end, a crank being attached to one. By turning this crank the pistons are raised and lowered in the stationary candle-moulds. The wicks are held on spindles below the movable frame. These wicks are drawn up through the pistons, and tip-moulds, and stationary moulds, and secured by a wire on the top of the frame until the candle is poured. On the top of the frame are two sets of clamps for holding the candles when forced from the moulds. The clamps consist of four strips in each set resting
41 upon a square pin at each end, those pins resting upon ears on the side of the reservoir for the purpose of clamping the candles. Those strips have a half circle cut out of each piece opposite and over each stationary mould, and clamped together by a hinge clamp for opening and closing the clamp.

Question 53. What do you mean by the term principle, as used by you in your direct examination?

Answer. It consists in the invention, and I use the term in that sense.

Question 54. Have you ever read the patent granted to John Stainthorp, and dated 6th day of March, 1855, and examined the drawings belonging thereto, and when?

Answer. I have read the printed specification yesterday, and also before then. I never have read the patent itself, or saw it, but I read a printed copy of it. I never examined the drawings.

Question 55. Please specify what part of the Stainthorp machine you referred to in your direct examination as being included in the first claim of the Stainthorp patent.

Answer. The stationary tip-moulds connected to the piston with the stationary moulds.

Question 56. State whether or not, in your direct examination, when you have spoken as to what you regarded as being included in the first claim of the Stainthorp patent, you have meant to have included therein only the combination and parts testified in your last answer.

Answer. That is what I meant.

Question 57. State whether or not the Humiston machine, so far as you know, use and employ in their construction and operation stationary moulds, in combination with movable pistons formed at the upper ends into tip-moulds by means of which the candles are thrown out in a vertical direction after being moulded.

Answer. He uses a stationary mould and the piston connected to a tip mould by a universal joint.

Question 58. Does the tip-mould remain connected as you have stated during the process of making and ejecting the candles from the stationary moulds?

Answer. Yes.

Question 59. In what respect, then, is there a difference, if there is any, between a combination of the stationary candle-moulds and pistons formed at their upper ends into tip-moulds in the Stainthorp machine, and the combination of drive-rods or pistons having
42 tip-moulds connected therewith, in connexion with the stationary candle-moulds in the Humiston machine?

Answer. The difference is, one is stiff and the other is flexible, by an universal joint. This is the only difference, as I understand it. Stainthorp's piston is stiff and the other flexible.

Question 60. Do you regard this difference as material; and if so, why?

Answer. I do regard it as material. It allows the candle to pass into the holders or clamps in case of an inequality, so as not to mar the candle.

Question 61. An inequality in what?

Answer. I mean an inequality with position of the holders or clamps, whether they were directly plumb over the candle-moulds or not. If the holders were directly plumb over the candle-moulds, there would be no need of the universal joint, providing they used clamps.

Examination adjourned to September 2.

WEDNESDAY, *September 2d, 4 p. m.*

Examination resumed at the office of Mr. Norton, in Troy.

Mr. J. Moran appears as plaintiffs' counsel.

Mr. M. P. Norton as counsel for defendant.

William L. Sanderson, a witness produced for defendants and sworn, testifies and says:

Question 1. What is your name, age, residence, and occupation?

Answer. My name is W. L. Sanderson; my age is 45 years and over; my residence is Troy, and my occupation is at present working in the candle-machine business.

Question 2. State the length of time you have been engaged in working upon candle machines as referred to in your last answer, and for whom have you worked for upon such machines?

Answer. For the last twenty-five years, more or less, I have worked on candle-moulding machines, and for Willis Humiston, whenever I have worked at such business.

Question 3. State whether or not you are familiar with and understand different machines in principle, construction, and operation for the purpose of manufacturing candles.

Answer. I do, and am.

Question 4. State whether or not you are especially familiar with the candle machine at present manufactured by the defendant
43 under his patent dated July 24, 1855, and reissued January 22, 1861, and which has heretofore been marked in this cause as exhibit (H).

Answer. I am perfectly familiar with it.

Question 5. State whether or not you are also familiar with the canple machines made by Stainthorp and Seguine, the plaintiffs in this suit, under a patent granted to John Stainthorp by the United States March 6, 1855, and shown by defendant's exhibit (J).

Answer. I am.

Question 6. State whether or not you have read a copy of the patent granted to John Stainthorp, the plaintiff, March 6, 1855.

Answer. I have read a certified copy, and also a printed copy of this patent.

Question 7. State whether or not you understand the principle, construction, and operation of the machine described in that patent, and especially that part described by the first claim thereof.

Answer. I do.

Question 8. State whether or not, in the manufacturing of the defendant's said machines, the same kind of pistons have been and are used as those in the Stainthorp machine and described in his said patent.

Objected to by plaintiffs' counsel as calling on the witness for the opinion of an expert, when it is not shown yet that he is competent to speak as such.

Answer. They are not.

Question 9. State whether or not the defendant's exhibit (M,) now shown you, correctly and fairly represents the candle-mould, piston-tip, and drive-rod manufactured by defendant.

Answer. They do.

Defendant now offers in evidence a candle-mould and piston representing the combination described in the first claim of plaintiffs' said patent, which are here marked defendant's exhibit (N).

Question 10. Look at defendant's exhibit (N) and state whether or not they correctly represent the candle-mould and piston found in plaintiffs' patent and in the defendant's exhibit (J).

Answer. I think they do.

Question 11. State whether or not you find in the defendant's machine marked exhibit (H) pistons formed at their upper ends into moulds for the tips of the candles constructed like those described in plaintiffs' patent and used in combination with stationary can-
44 dle-moulds like those described in plaintiffs' said patent and in the machine shown by defendant's exhibit (J).

Answer. I do not.

Question 12. State the number of parts of which the defendant's device for forcing the candles out of the stationary candle-moulds is constructed, and the reason why it is so constructed.

Answer. The number of parts is two; the upper part is the candle-tip mould, and the lower part is the drive-rod. These two are connected by a swivel joint; it is so constructed for the purpose of allowing the candle to yield to any irregularities in the clamps while being forced out of the mould and entering the clamps, so that the candle may not be marred or broken by the clamps while the candle is being clamped by the clamps, or while the candle is entering the clamp before it is clamped.

Question 13. So far as the candle-tip mould of defendant's exhibit (M) is concerned, do you or not regard the connexion and combination with the stationary mould as the same combination shown by the candle-tip mould and stationary candle-mould of defendant's exhibit (L,) as shown and described in the specification and drawings of letters patent granted to Joseph Morgan in 1834, and now shown you, and marked heretofore as defendant's exhibit (B,) and also shown at figure 2 and 1 of drawings, sheet 1 A, of letters patent granted to Joseph Morgan and Peter Gaskell, June 24, 1852, and now shown you, and marked heretofore defendant's exhibit (D)?

Objected to by plaintiff's counsel, because the question assumes that the candle-moulds in the Morgan patents referred to are stationary, while they are described in said patents as being moved about and their position changed with respect to the rammers which are used to drive out the candles.

Answer. I consider them materially the same.

Question 14. State whether or not there is any material and essential difference between the devices shown by these exhibits; and if so, state that difference.

Answer. There is no difference, I think. I answered that in the former answer.

Question 15. In your best judgment as is a mechanic, being fully acquainted with the said Stainthorp machine, state whether or not candles can be successfully made in and by that machine without injury to the body or tips of the candles, and give the reasons therefor.

Answer. I think they could not, for the reason that we mechanics could not make a machine perfect enough to work on that plan.
45 The piston being formed into a tip-mould at their upper ends, and being stiff without the joint between the tip of the candle and the driving power, will not allow the candle to yield to the inequalities of holders, clamps, or clasps above the candle-moulds.

Question 16. State whether or not, in your judgment, candles could be moulded in a candle machine like defendant's exhibit (K,) and with clamps or holders or rack tip bar like those upon said exhibit, without injury to the candles made therein, and especially the tips thereof.

Answer. There could not a merchantable candle be made. My reasons are, that a merchantable candle must have a certain shaped tip; therefore, that kind of tip could not be forced up into rack like that on the model (K,) exhibited, the racks then being thrown back to allow the tip bar to be shot under or running under without breaking the tip of the candle.

Question 17. State whether or not it has been customary for the defendant to receive at his manufactory, frequently, candle machines made by the complainants in this suit, and made under the Stainthorp patent of March 6, 1855; and if so, state the purposes and reasons, if you know, why it was so done.

Answer. Such machine of Stainthorp's patent, or so marked, have been received by the defendant frequently since 1860, and the machines have been taken to pieces for the purpose of melting up the metal. The reason, as I understand it, was, that they could not make them work.

Question 18. State whether or not you can make candles in the Humiston machine personally, and whether or not good, perfect, and merchantable candles are made in defendant's said machine.

Answer. I have made good merchantable candles in those machines, and have seen others make them.

Adjourned to 9 a. m. to-morrow.

THURSDAY, *Sept.* 3*d*, 9 *a. m.*

Examination of said Sanderson continued for defendant in presence of the counsel aforesaid, and Mr. Lyon, who also appears as counsel for plaintiffs.

Question 19. State whether or not the machines made under the date and the patent of Stainthorp, of March 6, 1855, and seen by you at the defendant's works, as testified by you, contained a rack and tip bars like those shown in defendant's exhibit (K,) and described in plaintiffs' said patent.

Answer. They did not.

46 Question 20. What kind of racks did they contain, if any?

Objected to, as the witness has not shown that he knows that the racks on said machines were made by complainants and put on said machines by complainants.

Answer. They were similar in construction and operation to Mr. Humiston's.

Defendant here offers in evidence a clamp taken from the Stainthorp machine, heretofore marked defendant's exhibit (J,) and which is here marked by examiner as defendant's exhibit (JJ.)

Question 21. Look at defendant's exhibit (JJ,) and state whether or not that exhibit correctly represents the clamps seen by you, as you have testified, at the defendant's manufactory.

Answer. It does, such as I saw there.

Question 22. State whether or not this exhibit (JJ) is in principle and operation the same as that made by Humiston, the defendant, and patented to him July 24, 1855, and reissued, bearing date January 22, 1861.

Objected to as immaterial and irrelevant, and as calling for the witness's opinion as an expert.

Answer. In my opinion it is.

Question 23. State whether or not any candle machine containing stationary candle-moulds and pistons, formed at their upper ends into moulds for the tips of the candles in combination therewith to throw out candles in an upward direction, is in your judgment of any practical use or value without the application and use of clamps like or substantially like those built by and patented to the defendant.

Objected to as before, and as leading.

Answer. I should think they could not be of any practical use without the clamps, or some similar device or operation.

Question 24. State whether or not candles can be made in large quantities in one operation without injury, and in a merchantable condition in and by defendant's machine, made by and patented to him in 1855, and reissued bearing date January 22, 1861.

Answer. They can.

On cross-examination by plaintiffs' counsal, witness testifies :

Question 25. Why are the clamps on the Humiston machine lined with cloth, if you know why?

Answer. To assist in equalizing the pressure.

47 Question 26. Explain what you mean by your last answer.

Answer. The clamps may be unequal in the boring of the hole to receive the candles, and the cloth, being soft, yields to that inequality while closing the clamps upon the candles.

Question 27. What would be the effect of leaving out the cloth in the operation of the machine?

Answer. The effect would be that we should have to be more particular in the manufacture of the clamps.

Question 28. Why?

Answer. We would have to remove those inequalities in the holes.

Question 29. For what reason would you have to remove those inequalities?

Answer. To prevent their marring the form or surface of the candles.

Question 30. Did you ever try a Humiston clamp without the cloth lining in the making of candles?

Answer. I have never tried them in making candles, but I have clamped candles in Humiston clamps without the clamp being covered with cloth, and the effect was to mar the surface of the candle.

Question 31. Do you not know that the cloth holds better to the surface of the candle than smooth wood clamps that become greasy in the operation, and that the cloth prevents the candles from slipping down when a more moderate pressure is applied than would have to be used with smooth wood clamps?

Answer. I don't know that to be the case. The clamps originally were not lined with cloth, but with tin: cloth being easier applied, and answering the same purpose, was used instead of tin.

Question 32. Was the tin so applied as to yield to the inequalities of the holes in the clamps?

Answer. It was, as it was elastic in its application in the same way as the cloth.

Question 33. Does not Mr. Humiston now make all his clamps with elastic or soft cloth linings to make yielding pressure on the sides of the candles so as not to mar the surface of the candles?

Answer. Yes.

Question 34. What would be the effect if the Humiston clamps were made with the holes or grooves a little too large for the candles?

Answer. The candles would, of course, drop out.

48 Question 35. Are the holes not a little smaller than the candle—I mean when packed with the cloth lining?

Answer. Yes, they are smaller, as they have to be to get the right pressure on the candles.

Question 36. How many different styles of tips to candles and candle moulds are known to you; give their names and describe them?

Answer. I do not know the names of the styles, and could not give the number of the styles I have seen. We make some short tips, some long tips, some medium tips, and we vary the course of the tip in different tips, some being much thinner than others, to suit the orders of the manufacturers.

Question 37. The shortest tips are some of them quite stumpy, are they not? [REC. CCLXXVI, D. T. 1864-]–3

Answer. They would be so, compared to a long one.

Question 38. The long thin tip are most apt to be injured in the operation of making and drawing the candles in machines generally?

Answer. They are more liable to be injured.

Question 39. You have been shown a description of the so-called Morgan machine, marked defendant's exhibit (C;) also a description of an improvement therein, marked defendant's exhibit (D,) and you have testified with respect to the said exhibits on your examination in chief: do you understand the construction and operation of the said Morgan machine, and improvement thereon, to be such that, in the operation of manufacturing candles by said machine, the candle moulds maintain a stationary position, or that the candle moulds are moved about from the fountain to the railway, and moved on the railway towards the mechanism for driving out the candles, and transferred from the railway when candles have become hard in the rammer mechanism, and changed also from a vertical to a horizontal position when the candles are ejected?

Objected to by defendant's counsel, on the ground, 1st, that the question has reference to the manner of the operation of the Morgan machine, which is irrelevant and immaterial for any purpose of this suit; and 2d, calling for an examination of witness upon a subject-matter not testified to about on his direct examination; and 3d, the question is not confined to the combination of candle moulds with pistons having a tip mould in the upper end thereof, and the result and effect produced by such combination; and 4th, such combination is the only subject-matter patented by the first claim of
49 complainants patent; and 5th, all matter not having reference to that combination is incompetent.

Complainant's counsel refers to question 13 of examination in chief as a sufficient basis for this cross-examination.

Answer. The candle moulds are stationary at the moment or during all the operation of forcing out the candles; the rest of the time moulds are moved, as stated in your question.

Question 40. Are the candles in said Morgan machine thrown out in a horizontal direction?

Objected to, first, as immaterial; and, second, because the direction in which the candles are forced from the moulds is no part of complainant's patented invention upon which this suit is brought: and, third, horizontal direction, perpendicular direction, or any other direction by which candles are forced from the moulds cannot be the subject-matter of a patent.

Answer. They are forced from the mould in a horizontal direction.

Question 41. What has to be done to the moulds after the candles are forced out and the moulds are properly wicked, in order to cast a new set of candles, by the operation of the said Morgan machine and improvement?

Objected to as immaterial and irrelevant.

Answer. They have to be detached from the rammers and carried to the fountain of melted tallow, and placed in front thereof in a vertical position.

Question 42. Why is it necessary. in the operation of the said Morgan machine and improvement, as described in the exhibit (C and D) referred to, to carry the moulds after the candles are hardened to the ramming mechanism?

Same objection as above.

Answer. Because they must be carried back in order to have the candles forced out of the moulds.

Question 43. Do you mean by your answer that until the candle moulds are brought back to the ramming mechanism, the candles cannot, in the operation of that machine, be thrown out of the moulds because of their detachment from the ramming mechanism?

Answer. I mean that the construction of the Morgan machine is such that there is no provision for forcing out the candles until the moulds are again attached to the ramming mechanism and made stationary, thus allowing the rammers to act on the tip moulds, to drive out the candles.

50 Question 44. Do you understand that the ramming mechanism is connected to a large number of different stands of candle moulds?

Answer. Yes, I so understand it.

Question 45. If each stand of candle moulds used in the Morgan machine had devices connected permanently with it to force out the candles after being hardened, there would be no necessity of moving or shifting the different stands about, and changing their position as in the operation of the said Morgan machine?

Answer. If some good, ingenious mechanic would take hold of the Morgan machine and remodel it, I can't say what he would make of it. If it was a practical machine in its operation without the moulds being detached, they would not have to be carried to the ramming mechanism.

Question 46. Then, as I understand you, there is no permanently attached mechanism for forcing out the candles in the stands of candle moulds used in the operation of the said Morgan machine and improvement.

Answer. No, there is not.

Question 47. Do the candle mould stands used in the said Morgan machine and improvement contain long pistons like those in the Stainthorp patent shown and described as pistons (DD) permanently connected and organized with the candle mould stands?

Answer. They do not.

Question 48. Do the long pistons (DD) in the Stainthorp patent contain in their top a mould *E* for the tip of the candle?

Answer. Yes, they do, as I understand it.

Question 49. Do I understand you to say that the only difference in the combination of stationary moulds and pistons formed in their upper end in tip moulds, so as to throw out the candle in a vertical direction, as found in the Stainthorp and Humiston machine, is the joint in the piston in the Humiston machine?

Answer. Yes.

Recess to 2½ p. m.

2½ p. m.

On redirect examination said Sanderson further testifies :

Question 50. State whether or not the "candle-tip moulds" and the "candle moulds" in the said Morgan machine always remain together and in combination like, or substantially like, the same devices found in the same combination in the defendant's
51 machine marked heretofore exhibit (H;) and if so, are the purposes and the effect produced by these combinations alike?

Objected to.

Answer. They are substantially alike.

Question 51. State whether or not you find candle-tip moulds in the said Morgan machine, and in the said Humiston machine, and in the said Stainthorp machine, substantially the same for the purpose of forming the smallest end or tip of the candle, and also completing the mould for the candle itself.

Answer. I do find such.

Question 52. State whether or not the different sizes and shapes of tips, referred to by you in your cross-examination as being made at the defendant's factory, were so made for the purpose of corresponding with the size of the candle to be made or desired to be made.

Objected to, as the witness has already testified that these different shapes and lengths of tips were made in consequence of the orders from candle manufacturers.

Answer. They were, I suppose, and also to correspond with the orders.

Question 53. In your cross-examination you state that if the holes for the candles in the clamps were made too large for the candle the candle would fall through ; state whether or not the same would take place in the Stainthorp machine, or in any other machine having clamps, if these holes were made too large.

Answer. As a natural consequence they would, if the hole were too large to hold the candle.

Question 54. Look at defendant's exhibit, (JJ,) and state whether or not, when that exhibit is applied to the Stainthorp machine, marked heretofore as exhibit (J,) would clamp the candles in the position in which they are driven or forced from the moulds, and then and thereby hold them during the operation of casting or moulding the candles in the candle moulds directly below until the said candles in the said clamps are in a condition to be removed therefrom, substantially as the same is described and set forth in the defendant's reissued patent of 1855, bearing date January 22d, 1861, and in the manner substantially the same as shown by the clamps upon the Humiston machine, marked defendant's exhibit (H.)

Objected to as immaterial.

Answer. I think they do substantially the same.

Question 55. State whether or not you find in the said Humiston machine the combination of devices mentioned, described, and claimed in and by the specification and first claim of the said Stainthorp patent?

52 Objected to as calling for expert opinion.

Defendant's counsel replies that he offers the witness as an expert.

Answer. I do not find the same combination.

Question 56. Do you find the same combination of candle moulds and pistons in the Humiston machines, marked exhibit (H) heretofore, as that contained in the Stainthorp machine marked exhibit (J)?

Answer. I do not find such.

Question 57. State whether or not by the term "piston," referred to in your last answer, you refer to the candle-tip mould and the drive rod or rammers in combination therewith.

Answer. I do so refer.

Question 58. Is there or not, in your judgment as a mechanic familiar with the construction of candle machines, a difference between the tip moulds and the drive rod as mechanically constructed and combined in the said Humiston machine, and the so-called pistons shown in the Stainthorp machine, and described in the Stainthorp patent, and especially the first claim thereof?

Answer. There is a decided difference between the two.

Question 59. State whether or not, in your judgment, that difference constitutes an essential and an important device for the successful and rapid manufacture of candles in large quantities, at the same time and same operation of the machine.

Answer. In my judgment it does constitute a very essential device for the purpose of manufacturing candles in large quantities at the same time and operation of the machine.

Cross-examination resumed by plaintiff's counsel.

Question 60. Name the essential device you speak of. Is it the joint?

Answer. Yes.

Question 61. Is the joint the only difference between the combination of the Humiston machine and the first claim of the Stainthorp patent, so far as you know?

Answer. It is, in my judgment.

Question 62. Then it is upon that difference you base your opinion as to the difference between the Humiston combination and the first claim of the Stainthorp patent, expressed by you in answer to question 55?

Answer. Yes, it is.

Question 63. Do you mean to be understood that candles of the same length are always made with the same length and curve of tip?

53 Answer. They are not.

Question 64. Then you make different size and shape on the same length of candle, do you?

Answer. We do if especially ordered, and we have so done.

On redirect examination the witness testifies further:

Question 65. State whether or not you find a joint in the Morgan machine of 1834 substantially the same as testified to by you in your re-cross-examination, as being found in the said Humiston machine; and if there is any difference between the two in effect and operation in forcing the candles from the mould, state the same?

Answer. In my opinion they are substantially the same, and I see

no difference in operation and effect in forcing the candle from the mould.

WM. L. SANDERSON.

Subscribed and sworn before me.

A. A. BOYCE, *U. S, Examiner.*

Defendant now offers in evidence a package of certified papers from the bureau of agriculture and statistics, patent department, under date Quebec, July 4th, 1863, signed by E. Campbell, secretary of that bureau for the province of Canada, consisting of a letter dated Camboro, August 27, 1855, signed Wm. Fitch, and addressed to the minister of agriculture, Quebec; consisting also of the petition of John Stainthorp, plaintiff, to the governor general of the province of Canada, British N. America, dated July 10, 1855; consisting also of the oath or affidavit of John Stainthorp plaintiff, dated province of Canada, county of Welland, signed and declared by John Stainthorp, before Robert Holsome, justice of the peace, on the 16th day of May, 1855; also a specification and description and drawings of the candle machine upon which a patent was granted to the said Stainthorp by the government of the province of Canada, at Quebec, the 24th day of September, 1855; also a copy of the original grant of that patent signed by Allen W. McNab, minister of agriculture, and George Etcartier, as by command of secretary, which said candle mould machine is the same machine patented to the complainant Stainthorp by the government of U. S. March 6, 1855, and which package of papers is here marked defendant's exhibited (O.)

The counsel for plaintiffs here, in the absence of Mr. Gifford, request that Mr. Gifford have the right to object to the above exhibit at any time before the hearing by this court. To which the
54 defendant's counsel consents, the objection to be the same and of the same effect as if Mr. Gifford were here.

Adjourned to Monday, September 21st next, at 3 p. m.

MONDAY, Sept. 21—3 p. m.

Examination continued at Troy, in presence of Mr. M. P. Norton, defendant's counsel, and Mr. M. B. Andrus, plaintiffs' counsel.

Franklin Scott, a witness produced and sworn for defendant, testifies as follows:

Question 1. What is your name, age, residence, and occupation?

Answer. My name is Franklin Scott; age, 25 years; my residence is Troy, and I am by occupation an attorney-at-law.

Question 2. State what has been your opportunities for becoming acquainted with mechanical invention, machinery &c.

Answer. I have, as solicitor of patents, been engaged in procuring patents, and have made drawings of machinery of various kinds.

Question 3. State whether or not you have carefully examined a candle machine manufactured by the defendant, under his patent dated July 24th, 1855, and reissued January 22, 1861, heretofore marked defendant's exhibit (H;) and if so, do you understand the same in construction, principle and operation?

Answer. I have seen the machine referred to in the question, and

I think I understand the same in principle, construction and operation.

Question 4. State whether or not you have also examined a candle machine said to have been made by the plaintiffs under the patent granted to John Stainthorp, March 6, 1855, and heretofore marked defendant's exhibit (J;) and if so, do you understand the construction, principle and operation thereof?

The words in the question "said to have been made by plaintiff under the patent granted to John Stainthorp, March 6, 1855," objected to as too indefinite.

Answer. I have, and do understand the principle, construction and operation thereof.

Question 5. State whether or not you are familiar with and understand the construction, principle and operation of different mechanical inventions.

Answer. I am, and do understand the same.

55 Question 6. State whether or not you have read a copy of the patent granted to John Stainthorp, March 6, 1855, upon improvements in machinery for making candles; and if so, state whether or not you understand the construction and operation of the combination of the devices described in said patent, and especially that part claimed by the first claim thereof.

Answer. I have examined the patent and understand the specification, and especially the first claim, or that part of the invention covered by the first claim.

Question 7. State whether or not you find in the defendant's exhibit (H,) (being Humiston's machine,) pistons employed and constructed like those described in the said Stainthorp patent, in combination with stationary moulds.

Objected to.

Answer. I do not find such pistons, so constructed or employed.

Question 8. Examine defendant's exhibits (M) (M,) and state what they represent.

Answer. The drive tip mould and stationary candle mould employed in the defendant's candle machine.

Question 8. How is the tip mould and drive rod connected, if at all, in that exhibit?

Answer. As near as I can judge, by a universal joint.

Question 10. Look at defendant's exhibits (N) (N,) and state what they represent.

Answer. They represent the piston rod and stationary candle mould used in the plaintiff's machine.

Question 11. Look at defendant's (M) and (N,) now shown you. State what they represent; state their construction and the difference therein, if any?

Answer. Exhibit (N) represents the piston rod used in the plaintiff's machine, and is constructed of a cylinder, fashioned at the upper end thereof into a mould to receive the tip of the candle. This piston rod is solid. I mean by solid that the connexion between the tip mould and piston rod is permanent—is rigid. Exhibit (M) repre-

sents the tip mould and drive rod used in the defendant's machine, and is composed of two parts connected by this universal joint, the upper part of which is constructed with a mould to receive the tip of the candle ; the lower part of which is cylindrical, and is used in combination with the tip mould for the purpose of forcing the candle out of the stationary mould. The difference between them is: one is a piston rod composed of but one piece; the other is a combination of two parts, connected as before described, and operating in such a way as to avoid breaking the tips of the candles when forcing them from the candle mould.

56 Defendant's counsel now offer in evidence a vellum drawing, representing the stationary candle mould, the candle-tip mould and drive rod, described in defendant's patent of July 4, 1855, reissued, bearing date January 22, 1861, showing also the stationary candle mould and piston rod, with candle-tip mould, therein described in plaintiffs' patent granted to John Stainthorp by the United States March 6, 1855, and also described in another patent granted to said Stainthorp by the government of the province of Canada Sept. 24, 1855, and also showing stationary candle mould and a tip mould, and rammer, as described in a patent granted to Joseph Morgan by the United Kingdom of Great Britain, May 22, 1834, and also shown and described in a patent granted by the same government to Morgan and Gaskell, June 24, 1852, and which is here marked defendant's exhibit (P) by the examiner.

The introduction in evidence of the last-mentioned document, including the statements of counsel in relation thereto, is hereby objected to by the complainant's counsel.

Adjourned to 9 o'clock to-morrow morning.

TUESDAY, *Sept.* 22—9 a. m.

Examination continued at Mr. Norton's office, in Troy, in presence of the counsel as yesterday.

The said Scott, on his further direct examination, testifies :

Question 12. Look at defendant's exhibit (P,) and especially the drawing thereof, and state what the same represents, if within your knowledge.

Answer. Fig 1 illustrates the combination or devices patented by Humiston in 1855. Fig. 2 represents the combination patented by Morgan and Gaskell in England in 1852. Fig. 3 exhibits the combination patented by Stainthorp in 1855.

Question 13. Look at Fig. 1 of defendant's exhibit (P,) and describe the parts as they are lettered, respectively, and also describe their combination.

Answer. A in Fig. 1 represents a stationary candle mould ; B in Fig. 1 represents a candle-tip mould, and C in same figure represents the cylindrical piston rod. The piston rod (C) is connected with the tip mould (B) by a loose joint, as shown at (D.) In this answer I have referred to the Humiston patent as above referred to.

57 Question 14. Look at fig. 2. of defendant's exhibit (P,) and describe the parts as they are lettered respectively, and also describe their combination.

Answer. This figure illustrates Morgan and Gaskell's combination, before referred to, in which A is the stationary candle mould, B the candle-tip mould, and C the piston rod.

Question 15. State whether or not, in your best judgment, there is any difference in the combination of devices shown by defendant's exhibit (MM) and (LL,) and whether or not there is any difference in the principle and operation, and whether or not these respective exhibits are correctly represented at figures 1 and 2 of defendant's exhibit (P.)

Answer. When in use I think there is no difference between them, and there is no difference in their principle and operation, and if they are correctly shown in figures 1 and 2 of exhibit (P.)

Question 16. Look at defendant's exhibits (MM) and (LL,) and state whether or not you find in each of these exhibits a candle-tip mould in combination with the stationary candle mould.

Answer. I find in each of those exhibits a candle-tip mould in combination with a stationary mould.

Question 17. State whether or not, in your best judgment, the respective tip moulds referred to by you in your last answer are operated in the combination which you have described by means of a connecting rod, drive or rammer, for the purpose of forcing the candle out from the respective moulds.

Objected to as leading; also because the subject-matter beyond what is not a matter of judgment, and because it does not appear that the witness is acquainted with the practical operation of the Morgan & Gaskell machine.

Answer. They are so operated, or at least the tip mould in exhibit (MM) is so operated, and in my best judgment the tip mould in exhibit (LL) is operated in like manner, and for the same purpose.

Question 18. Look at figure 3 of defendant's exhibit (P,) and describe the device there lettered.

Answer. In figure 3 the stationary mould is shown at A, and the driver at B. This driver is constructed with a mould in the end of it, which would shape the tips of the candle.

Question 19. State whether or not you find in figures 1, 2,
58 and 3 of exhibit (P) moulds for the purpose of shaping or forming the tips of the candles; and if so, describe the same by letter or otherwise,

Objected to by complainant's counsel as immaterial.

Answer. I do find such moulds. They are shown in figure 1 at (EE,) in figure 2 at (EE,) and in figure 3 at (EE.)

Question 20. Look at defendant's exhibits (MM,) (LL,) and (NN,) and state whether or not you find in each of these exhibits moulds for the purpose of shaping and forming the tip of the candle.

Answer. I do so find such moulds.

Question 21. Look at defendant's exhibit (G,) sheet 1, drawing A, figures 1 and 2, and state whether or not you find there shown a candle-tip mould, in combination with a candle mould substantially like that shown by defendant's exhibit (LL,) and also by defendant's exhibit (MM)?

Answer. I do find substantially the same combination.

Question 22. State whether or not figures 1 and 3 of defendant's exhibits (P) correctly represent the devices of candle moulds and tip moulds shown by defendant's exhibit (K) and defendant's exhibit (Q) now shown you, (Q) being a certified duplicate of the model on which Humiston's patent of July 24, 1855, was granted upon improvements upon candle machines, and here marked by examiner defendant's exhibit (Q)?

Complainants' counsel objects to the introduction of the said model (Q) in evidence in this case, and also to the statement of the counsel in the question in relation to said model, and because it is assuming and leading.

Answer. I think the drivers or candle tip-moulds and stationary moulds found in exhibits (K) and (Q) are correctly represented in figures 1 and 3 of exhibit (P.)

On cross-examination by plaintiff's counsel, the said witness, Scott, further testifies:

Question 23. How long have you been employed in procuring patents, and in making drawings for machinery, and where?

Answer. For about two years in this city.

Question 24. Is this all the experience you have had in this branch of business?

Answer. It is.

Question 25. Do you carry on this business on your own account, or are you in the employ of some other person; and if so, in whose employ?

Answer. I am not at present engaged in the business at all.

59 Question 26. How long since you have been engaged in it?

Answer. About ten months.

Question 27. Did you carry on the business on your own account, or were you in the employ of some other person while you were engaged in it; and if you were in the employ of some other person, in whose employ were you?

Answer. I carried on the business on my own account while in it.

Question 28. How long were you in it?

Answer. About two years.

Question 29. Have you ever been in the employ of the defendant, or of his solicitor; and if so, in what capacity and when?

Witness asks—In what sense do you use the term capacity?

Counsel replies that the witness can answer the question in any sense in which he has been in the employ of the defendant or his solicitor.

Answer. I made patent drawings for both defendant and his solicitor in this case at different times during the above named period, but I have never been regularly in their employ on a salary.

Question 20. Have you heretofore been examined in court as an expert in any patent case; and if so, in what case or cases?

Answer. I was examined in an "interference" case, but not as an expert.

1169

Question 31. Have you ever before been examined as an expert in a patent case in court? If so, in what case were you examined?

Answer. I have not been examined in any case in court as an expert.

Question 32. Have you heretofore ever given your testimony as an expert, in any case, before an examiner or commissioner out of court, where your testimony was to be read and used in court on the hearing of any cause; and if so, in what case did you so give it?

Answer. I have not.

Question 33. In how many cases have you given testimony which was to be used on a hearing before the Commissioner of Patents, and in what cases, if any?

Answer. I am unable to state the number of cases.

Question 34. About how many?

Answer. Probably 5 or 6.

Question 35. In what cases?

60 Answer. In the case of Shavor and another v. Hagan. In the case of Waters v. Percy and King, but this was not an interference case; it was a suit for infringement of patent in the U. S. circuit court in this district. Also in the case of Stainthorp and Seguine v. Humiston. This was now an interference case. Also another where I don't recollect the names of parties. These are all I recollect of at present.

Question 36. When was you examined as an expert in the case of Stainthorp and Seguine v. Humiston?

Answer. I have never before been examined as an expert in that case.

Question 37. How often have you seen the machine referred to in the 3d direct interrogatory marked (H)?

Answer. I have seen it once.

Question 38. When?

Answer. Yesterday.

Question 39. How long did you examine it?

Answer. Perhaps 5 minutes.

Question 40. Have you ever made or operated practically machines for making candles; and if so, when and where?

Answer. I have never made or operated candle machines practically.

Question 41. When and where have you seen them, if at all, in practical operation?

Answer. In this city; I don't know that I can state when. It was since the 1st of January, 1861.

Question 42. In whose establishment did you see them in operation?

Answer. I do not recollect in whose, but my impression is it was in Stainthorp's.

Question 43. State if you know who was the manufacturer of those machines.

Answer. They were Humiston's machine, and I suppose they were of his manufacture.

Defendant's counsel here admits that those machines were made by Humiston, and under his patent.

Question 44. What occasion had you to examine those machines at Stanley's factory, and who, if any one, requested you to examine them?

Answer. I examined them at my own accord, for the purpose of learning how they were manufactured and operated, but at the request of no one. When I visited the establishment I did not know that they used Humiston's machines.

61 Question 45. In your direct examination you state that you do not find pistons constructed and employed in the Humiston machine marked (H,) like those described in Stainthorp's patent in combination with stationary moulds. Do you find in said machine pistons which are not in combination with stationary candle moulds?

Answer. I do not.

Question 46. Have you ever seen a Humiston machine for making candles which did not have the pistons in combination with stationary candle moulds?

Answer. I have not.

Question 47. Do you find pistons and stationary candle moulds used in combination in the patent granted to John Stainthorp, and dated the 6th day of March, 1855?

Answer. I do.

Question 48. How many of the said Humiston's machine do you think you have seen?

Answer. think I have seen 25.

Question 49. How far below the top of the tip mould in Humiston machine marked Exhibit H, is the joint in the piston rod which you call a universal joint?

Answer. I should say about $2\frac{1}{4}$ inches.

Question 50. Suppose this joint was an $\frac{1}{2}$ inch lower down the piston rod than shown on that machine; would it in your judgment essentially change the principle or mode of operation of the machine?

Answer. I do not know that it would essentially.

Question 51. Suppose that this joint were made in the piston an inch lower down; do you think it would essentially change the principle or mode of operation of the machine?

Answer. I do not think it would.

Question 52. Suppose this joint was placed as low down as the middle of the piston rod; do you think this would essentially change the principle or mode of operation of this machine?

Answer. I think if this joint is placed too far below the tip mould, that the object for which it is constructed and used would be defeated, although the mode of operation would remain the same.

Question 53. In your direct examination you used the term principle. Please state in what sense you use that term, or define it as you understand it, and mean to be understood by it.

Answer. It is very difficult for me to express my idea of that word principle clearly. The sense in which I used it in my direct

62 examination is analogous to the mode of operation.

Question 54. Is that also the sense in which you have understood and answered the term thus far in your cross-examination?

Answer. It is.

Question 55. Then I understand you to say that you used the term "principle" and "mode of operation" as synonymous in this examination?

Answer. I have thus far.

Recess to 2 p. m.

2 p. m.

Examination continued.

Question 56. For what purpose is the drive-rod or piston used in the defendant's machine?

Answer. It is used to drive the candles from the moulds.

Question 57. In what direction does it remove the candle from the mould?

Objected to by defendant's counsel: First, as irrelevant and immaterial; second, as constituting no part of the alleged invention upon which this suit is brought; and third, as incompetent.

Answer. When the machine stands upright, it throws out the candles vertically.

Question 58. Did you ever see the Humiston machines, when practically in use, throw out candles from the moulds otherwise than in a vertical direction?

Same objection as to last question.

Answer. I have not.

Question 59. Are not the Humiston machines, so far as you know, invariably made so that the pistons therein throw the candles out vertically from the stationary moulds; and does not his patent, including the drawings thereto, show this to be the operation of his machine.

Answer. All of his machines which I have seen throw out the candles vertically, and I think his patent and drawings show this to be the operation of his machine.

Question 60. Are not the pistons shown in the Stainthorp patent, and also found in the Humiston machine, formed at their upper ends into tip moulds for the tips of candles to rest in?

Objected to on the grounds: First, as being immaterial; and, second, as no part of the invention mentioned or described in the patent as being claimed by the first claim of plaintiff's patent
63 upon which this suit is brought; and, third, as incompetent, because the invention called for by the question is an old device, found in the Morgan machine of 1834, and also in the Morgan and Gaskell machine of 1852; and, fourth, because the question assumes, contrary to the proof, that there are pistons in the Humiston machine.

Answer. Those found in the Stainthorp machine are so formed, but the upper end of the piston in the Humiston machine is connected with the lower end of the tip mould, and the mould for the tip of the candle to rest in is formed in the upper end of the tip mould, so called. I do not consider this tip mould a piston, and in my testimony thus far have not so considered it.

Question 61. What difference, if any, do you find between the device used in the Stainthorp patent for throwing out the candle from the stationary candle mould and the device for the same purpose used in the Humiston machines?

Answer. The Humiston device for accomplishing this purpose is composed of two parts, namely, the tip mould of the drive-rod, connected by a loose joint, whereas in the Stainthorp machine you find only a piston constructed with a mould in the upper end to receive the tip of the candle; this constitutes the only difference in the construction of the two devices.

Question 62. What distinction, if any, do you make between a piston and a drive-rod, as used in your last answer?

Answer. A piston is supposed to fill the cylinder in which it works. That part of Humiston's device designated by me as a drive-rod does not fill the cylinder, and is not a piston in the strict sense of the term.

Question 63. Do not the same pistons, of the device for holding the tips of the candles and throwing the candles out of the stationary mould in the Stainthorp patent, and in the Humiston machine, correspond with each other as to the relative positions of the space which they respectively occupy in the moulds?

Answer. I think they do so correspond as to the space which they relatively occupy in the moulds.

Question 64. Define what you mean by the term universal joint, as used by you in this examination.

Answer. Such a joint as allows the upper end of this tip mould in the Humiston machine to be moved about freely in any lateral direction.

Question 65. If you are not familiar with the operation of candle machines, and have never used them in the manufacture of
64 candles, how are you able to state of your own knowledge that giving the tip mould a lateral motion would be of utility, or constitute any substantial difference?

Answer. I am sufficiently familiar with the operation of the Humiston machine to know that by constructing his machine with this device, and by giving this tip-mould freedom to act in the manner described, after the candle has been forced from the mould into the clamps to receive and hold the same, the danger of breaking the tips of the candles is greatly lessened, if not entirely avoided.

Question 66. Then you regard, do you not, any utility arising from the use of this joint "to accrue" after the candle has been formed from the stationary mould?

Answer. I do not regard all the utility of this joint to accrue after the candle has been forced from the stationary mould.

Question 67. What portion of the utility of this grant do you regard as accruing after the candles have been forced from the mould?

Answer. Breaking of the tips of the candles is avoided after they are forced out of the mould, and by means of this loose joint the lower part of the device or drive-rod can be brought in contact with the tip mould before the candle is started by means of a smart blow

from beneath, which instantly vibrates the candle from the mould. This is another advantage. These are the most important advantages acquired by the use of this joint.

Question 68. Might not this smart blow be as well given at or near the bottom of the drive-rod as at any other part of it?

Objected to as immaterial.

Answer. If the drive-rod is forced upward so that the upper end thereof should come in contact with the lower end of the tip mould, I suppose, then, the blow might as well be given at the lower end of the drive-rod, but in this machine the blow is given to the tip mould by the drive-rod itself, being suddenly brought upward in contact with the lower end of the tip mould.

Question 69. At what time after the candles have been forced from the moulds into the clamps in the Humiston machine does this lateral motion of the tip mould prevent the breaking of the tips of the candles, as mentioned by you in your answer to the 65th cross-interrogatory?

Answer. I will modify my answer to 65th cross-interrogatory by stating how that this advantage of avoiding breakage occurs
65 more especially during the process of forcing the candles into the clamp, and closing the clamp after it has received the candles. This advantage is apparent when the holes in the clamps to receive the candle does not happen to stand in a position directly over the candle mould, as in this case the candle, on emerging from the mould, must deviate from a perpendicular line to enter the hole in the clamp, and by means of this loose joint the candle-tip mould can accommodate itself to such deviation without wrenching or breaking the tip of the candle.

Question 70. Deviation from what do you mean in your last answer?

Answer. Deviation from the line which the candle takes on leaving the stationary mould.

Question 71. Then, if the receptacle for the candle, on being ejected from the stationary mould, were large enough to receive the candle, and in the exact form of the candle, and exactly coincided in position with the top of the mould from which the candle was ejected, this lateral movement of the tip mould would be unnecessary, would it not?

Answer. In that case I don't know it would be necessary. Such a machine would be a very perfect one.

Question 72. Have you ever seen constructed or operated a machine like that described or patented in the Morgan and Gaskell patent of 1852?

Objected to as immaterial for any of the purposes of this suit.

Answer. I have never seen any such machine so constructed or operated.

Question 73. From what source have you derived your knowledge of the construction and operation of that machine?

Answer. From a printed copy of the English patent, specification, and drawings.

Question 74. Are you familiar with the construction and operation of that machine, as described and shown in that patent?

Answer. I am not familiar with its construction or operation, having never seen one, and my knowledge of its construction and operation is derived exclusively from the drawings and specifications before mentioned, and from what purported to be detached portions of the machine.

Question 75. Specify the detached portions of the machine which you refer to in your last answer.

66 Answer. Exhibits (LL) before referred to.

Question 76. State, if you know, who made the drawings, exhibit (P.)

Answer. I don't know who made them.

Question 77. Are you able to describe the mode of operation used in the Morgan and Gaskell machine of 1852—I mean after the candles have been formed in the moulds?

Answer. I am not able to describe its operation from personal attendance with the machine.

Question 78. Are you able to describe it, as shown in their patent of 1852?

Answer. My impression is that after the candles were formed in the moulds, the moulds were laid down in a horizontal position, and a set of drivers or rammers corresponding in number and position to the number of candle moulds was brought up, and each of these drivers coupled or attached to the lower extremity of the tip mould, and the candles by this means were forced out of the moulds, and were received on the other side of the mould in a receptacle having ganes or throughs to receive the candles. After the candles were forced out, this tip mould and driver were withdrawn; the drivers were detached from the lower end of the tip mould, and the candle moulds were then erected, and were ready after being wicked for use; they were then refilled, and the same process gone through with again.

Question 79. What combination of drivers do you refer to in your answer to the 15th direct interrogatory?

Answer. I refer to the exhibits (MM) and (LL,) (MM) being the combination of a stationary mould, tip mould, and drive-rod, as used in the Humiston machine; and the other combination (LL) being a stationary mould, with a tip mould and driver attached thereto when in use.

Question 80. When not in use, do you find any combination of a tip mould and drive-rod in the Morgan and Gaskell machine, as described and shown in their patent of 1852, or in any other patent of theirs, or of either of them?

Answer. This combination, as I understand the patent, may or may not be preserved when the machine is not in use. I refer to the machine illustrated in the drawings attached to the patent granted to Joseph Morgan in 1834, and numbered 6610, and especially to figures 3 and 10.

Question 81. Please quote the words in the specification referred

to, where you find it stated that the combination referred to may or may not be preserved when the machine is not in use?

67 Objected to on the ground that the certified copy of Morgan's said patent of 1834 has been procured by defendants and filed as evidence in this cause, which said patent is the best evidence of the subject-matter inquired about.

Complainants' counsel replies that the certified copy referred to is not from any records of the English or United States Patent Office which can be evidence in this cause.

Answer. I do not find that language in the specification referred to.

Question 82. Quote the language in this patent of Morgan & Gaskell of 1852, where you find it stated that the combination referred to in your answer may or may not be preserved when the machine is not in use.

Answer. I have found no such language in that specification.

Question 83. How then do you come to the understanding that this combination may or may not exist when the Morgan machine is not in use?

Objected to as immaterial for any purposes of this trial; and further, that the cross-examination of this witness is designed to unnecessarily prolong this examination of witnesses and the case. Complainants' counsel disclaims any such intention.

Answer. For the reason that when this machine is in use in the manner set forth in Morgan's specification for 1834, it becomes necessary after the candles have been forced from the moulds to detach these drivers from the tip moulds, so as to allow the candle moulds to be erected for the purpose of refilling; and when the machine is not in use, it is unnecessary to refill the moulds, and consequently this combination can be preserved.

On redirect examination by defendant's counsel, witness says:

Question 84. State whether or not the Humiston candle machine, when in a horizontal position, will force candles out from the stationary moulds in substantially the same manner and by substantially the same means as those described and shown in the said Morgan patent, and the said Morgan & Gaskell patent.

Objected to.

Answer. When in a horizontal position, the same result will be attained in substantially the same manner and by substantially the same means with the Humiston machine as with either of the others named in the question.

Question 85. State whether or not the means used in the

68 said Humiston machine for casting or forming the candles and their tips, and for forcing the same from the stationary candle mould, are the same as those described and shown in the said Morgan specification and drawings of the patent of 1834, and also described in the specification and drawings of the Morgan & Gaskell patent of 1852.

Objected to because the question has already been fully answered by the witness, and he has already been fully examined in the sub-

ject inquired about, and because it is not a proper question to the witness on his redirect examination.

Answer. In my judgment they are substantially the same.

On re-cross-examination :

Question 86. State whether or not you would not have to move the moulds from the Humiston machine in order to force the candles out from them in a horizontal position; and if not, in what way would you accomplish that result?

Answer. I would not have to take the moulds from the machine, but I would place the entire machine in a horizontal position, and by turning the crank force all the candles out of the moulds in a horizontal direction.

Question 87. When would you place the entire machine in a horizontal position during the operation of making candles in it?

Answer. I do not conceive that it would be necessary at any time. I would turn it over as soon as the candles are cold.

Question 88. Do you think this would be a proper way to use the machine?

Answer. I think it would be a proper way to use the machine, but not as convenient.

FRANKLIN SCOTT.

Subscribed and sworn before me.

A. A. BOYCE, *U. S. Examiner.*

Plaintiffs' counsel here objects to any postponement of the taking of proofs or adjournment beyond October 1st next.

Further taking of proofs herein is now adjourned to third Monday of November next, at 3 p. m., at Mr. Norton's office, in Troy.

69 United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE
vs.
WILLIS HUMISTON. } In equity.

NOVEMBER 23, 1863—10 o'clock a. m.

At M. P. Norton's office, Troy, A. D. Lyon, esq., appeared for plaintiffs, and Marcus P. Norton of counsel for defendant.

George W. Humiston, a witness produced by and on behalf of the defendant, was by me duly sworn and testified as follows:

Question 1. What is your name, age, occupation, and place of residence?

Answer. My name is George W. Humiston. I am thirty-two years of age. I am employed in the manufacture of candle-mould machines. I reside in the town of Lansingburgh, in the county of Rensselaer.

Question 2. State how long you have been engaged in the manufacture of candle-mould machines.

Answer. For the last seven years.

Question 3. Has that been your exclusive business during that time as a business occupation?

Answer. It has.

Question 4. Do you understand the construction and mode of operation of the Humiston candle machine, marked defendant's exhibit (H,) and also defendant's exhibit (Q)?

Answer. I think I do.

Question 5. Do you understand the construction and the mode of operation of the Stainthorp candle machine, marked defendant's exhibit (J)?

Answer. I do.

Question 6. Look at defendant's exhibit (MM) and state what the same represents.

Answer. They represent a tip mould and piston, the tip forming the tip end of the candle, and the piston to shove it out. They represent the Humiston machine with a stationary mould, which are found in the Humiston machine.

Question 7. Have you, during the last seven years, been more or less engaged in the manufacture of the Humiston candle machine?

Answer. I have.

70 Question 8. Do defendant's exhibits (MM) correctly represent the stationary mould, the candle-tip mould, and drive-rod or piston, found in the Humiston machine?

Answer. They do.

Question 9. State whether or not the connection of drive-rod or piston and candle-tip mould are connected in the manner as usually made by defendant during the length of time of which you have testified.

Answer. They do.

Question 10. Has the defendant ever, within your knowledge, during the last seven years, made any candle machine containing a stationary candle mould and a piston with a candle-tip mould in the upper end thereof, like defendant's exhibit (NN) now shown you?

Answer. Not to my knowledge.

Question 11. Has the defendant, during that time, made candle machines which contain stationary candle moulds?

Answer. He has.

Question 12. Can you state why it is that defendant has made his machines with a candle-tip mould, loosely connected with the drive-rod in the manner represented by defendant's exhibit (M)? and if so, state the same.

The last question is objected to by plaintiff's counsel, as incompetent and improper.

Answer. So that the loose joint may operate with the clamps and not break the candles, and that the lower end of the candles may be of a length.

Question 13. Explain how and during what operation, if any, this loose joint would prevent the breaking of candles, as stated in your last answer.

Answer. In the operation of clamping candles.

Question 14. Do you consider it, in your best judgment as a mechanic, familiar with the construction of the Humiston machine as before stated, that it is essential in the successful manufacture of candles in large quantities, at one time, that a machine should contain this loose joint which you have described; and if not, why not?

The last question is objected to by plaintiff's counsel as leading and incompetent.

Answer. I think it should contain it.

Question 15. Have you, during the time you have spoken of, seen about the defendant's factory the Stainthorp candle machine; and if so, about how many, and for what purpose were they there?

The last question is objected to by plaintiff's counsel as irrelevant and immaterial, and incompetent.

71 Answer. I have seen the Stainthorp candle machine at defendant's factory within the seven years spoken of by me; the number I am unable to state; there was quite a large lot of them; they were taken in there for what the old material was worth in them, with the exception of once or twice; then they were taken in to be repaired, and also to have defendant's clamps put on them.

Question 16. Do you mean to be understood in your last answer that the machines spoken of as having been repaired were otherwise repaired than by putting on defendant's clamps as stated by you?

Answer. I do not recollect of any other repairs, except there might have been a tip or some such thing out of repair.

Question 17. About how many machines have been so repaired during that time, by the substitution of defendant's clamps as stated by you, and for what purpose, if within your knowledge, were defendant's clamps so substituted?

The last question is objected to by plaintiff's counsel as being incompetent and irrelevant.

Answer. There were four or five sent there to be repaired in that way at one time. They were substituted so that the Stainthorp machine might be worked without breaking the candles.

Question 18. If within your knowledge, what afterwards became of those machines so repaired?

Answer. They were sent to the defendant after the clamps were put on them for what the old material in them was worth.

Question 19. By whom were they sent to the defendant, and why?

The last question objected to by plaintiff's counsel as incompetent.

Answer. They were sent from New York from Allen, Hay & Co., for what the old material was worth that was in them. They were sent because they could not use them.

Question 20. Are these machines to which you refer in your last answer the same machines which were repaired by substituting the defendant's clamps as above stated by you; and if so, were such repairs made by defendant for Allen, Hay & Co., and if so, in what year?

The last question is objected to by plaintiff's counsel as leading, irrelevant, and incompetent.

Answer. They are the same; they were repaired by defendant for

Allen, Hay & Co., in the year 1859, I think, and were sent up
72 for old material in 1860 or 1861. I think.

Question 21. In what part of the year 1859 were these machines so repaired?

Answer. I think it was along in February.

Question 22. What has usually been done since that time with the Stainthorp machines delivered at the defendant's works, as stated by you?

The last question objected to by plaintiff's counsel as immaterial and incompetent.

Answer. They have been broken up and used as old material.

Question 23. Do you know whether the plaintiffs, or either of them, have, within the last three years, applied to the defendant to manufacture defendant's patented clamps for plaintiff's candle machine in suit?

The last question objected to by plaintiff's counsel as leading, immaterial, and incompetent.

Answer. They have applied for the clamps, and, I think, within the last three years, but I will not be positive as to the time.

Question 24. Has the defendant, within your knowledge, or have you yourself, ever manufactured for, sold and delivered to the plaintiffs defendant's patented candle machine clamps?

The last question objected to by plaintiff's counsel as leading and immaterial, and incompetent.

Answer. Yes, sir.

Question 25. About how many?

Answer. One set, I remember, that was delivered to them.

Question 26. Have these patented clamps of defendant's been made by you or the defendant to be used on the Stainthorp machine other than for the plaintiffs?

The last question objected to by plaintiff's counsel as leading, immaterial, and incompetent.

Answer. They have been made for other persons than the plaintiffs, to be used on the Stainthorp machine.

Question 27. Look at defendant's exhibits (LL,) and state what they represent.

Answer. They represent Morgan & Gaskell's patent for stationary moulds and pistons.

The last question and answer objected to by plaintiff's counsel as being incompetent, and for the further reason that witness is not shown to be an expert, and that there is no evidence tending to show that he has examined the Morgan & Gaskell patent.

73 Question 28. Have you ever seen a candle machine known as the Morgan machine, built under his English patent?

The last question objected to by plaintiff's counsel as irrelevant and immaterial; and further, that the witness is not shown to have examined or to understand the Morgan English patent.

Answer. I have seen a machine so called a Morgan machine.

Question 29. Did that machine also contain a stationary candle-mould and a candle-tip mould, like defendant's exhibits (LL)?

The last question objected to by plaintiff's counsel as being leading, and also as calculated to mislead the witness by the use of the term "stationary mould," there being no stationary mould in the Morgan machine.

Answer. It did, while in operation.

Question 30. Have you been misled in your answer to the last question by the use of the term "stationary mould," as indicated in the memorandum of plaintiff's counsel?

Answer. I have not been misled.

Question 31. Look at defendant's exhibits (LL,) and also at defendant's exhibits (MM,) and state the difference, if any, in their construction, principle, and operation.

The last question objected to by plaintiff's counsel as being incompetent, and that the witness has not been shown to be an expert.

Answer. I don't think there would be any difference in them, if both could be worked in the same way.

Question 32. What do you mean by "could be," in your last answer?

Answer. If both could be worked perpendicular or horizontal.

Question 33. Look at the same exhibits referred to in question No. 31, and also at defendant's exhibits (NN,) and state, as a mechanic of about seven years' experience in the manufacture of candle machines, the difference, if any, in the mechanical construction of such exhibit.

Answer. The difference is in the working of the machine. They are unlike in the tip. One has a loose joint—two of them have loose joints; these are exhibits (MM and (LL;) the other has no joint in it; it is solid. This is exhibit (NN.)

Question 34. State whether or not, as a mechanic, you find in each of said exhibits a candle-tip mould in the piston in combination with a stationary candle mould.

74 The last question is objected to by plaintiff's counsel as leading and incompetent.

Answer. I do in one exhibit, (NN.) In the others I do not.

Question 35. State whether or not in each of said exhibits a candle could be made with a tip thereon, and each forced from the mould in which they were made.

The last question is objected to by plaintiff's counsel as leading, and that witness is no expert, and there is no evidence that witness ever knew anything of the manufacture of candles.

Answer. I think they could.

Question 36. Did you ever see any candles made by machinery, and did you ever make any candles by machinery?

Answer. I have seen them made by machinery, and have made them by machinery.

Recess until 3½ o'clock p. m.

NOVEMBER 23, at 3½ p. m.

Examination of George W. Humiston resumed by defendant's counsel, Charles E. Patterson appearing as counsel for plaintiffs.

Question 37. How frequently?

Answer. I have seen them made by machinery quite often; I have made them myself for our own use, and by way of experiment also.

Question 38. Look at defendant's exhibit (K) and state whether or not in all the Stainthorp machines you have ever seen, as testified by you, you have seen racks and tip bars for holding the candles after being forced from the moulds like those upon said exhibit.

Answer. I have seen them like that; they have not been all like that; those that were not made like exhibit (K) were made as a sort of a clamp; I have reference, principally, to those sent up to the factory.

Question 39. Without a suitable clamp which shall guide the candles while being ejected from the moulds, and afterwards holding them in proper positions over the stationary candle moulds, would the stationary mould and tip mould be of any practical value for the purpose of making candles?

Answer. I don't think they would without the clamps.

Question 40. Would racks and tip bars like those upon defendant's exhibit (K) be of practical value and utility in the manufacture of candles in large quantities?

75 Answer. I don't think they would be useful in manufacturing large quantities of candles at one operation.

Question 41. What would be the principal difficulty, if any?

The last question is objected to by plaintiff's counsel as incompetent, it not being shown that the witness has ever used racks or tip bars like those upon said exhibit (K.)

Answer. The breaking of the candles—that is, the tips of the candles.

Question 42. Can you give a more definite answer to question No. 20, in relation to the time defendant's patented clamps were put on the Stainthorp machines for Allen, Hay & Co.? and if so, give the same.

Answer. Five of them were put upon the machines December the 1st, 1860; that is, five sets were put upon five machines; one other machine had the clamps put on it in 1859.

Question 43. Did these machines, thus repaired, contain what Stainthorp calls a piston with a tip mould in the upper end?

Answer. They did.

Question 44. Were these machines made with a tip mould rigidly or firmly connected to the drive-rod like defendant's exhibit (N) now shown you?

Answer. They were.

Question 45. What is the effect of such a device as this exhibit upon candles while forcing them from the stationary mould into the racks above?

Answer. The candles would be liable to be broken.

Question 46. Would this same effect be produced were the tip mould loosely connected with the drive or piston rod like defendant's exhibit (L) and (M)?

Answer. It would not.

Question 47. Are candles in large quantities successfully made, and of a marketable character, by the Humiston machine?

The last question objected to by plaintiff's counsel as incompetent.

Answer. They are.

Question 48. In your judgment, were a machine constructed of the ordinary capacity for making candles in all its parts like defendant's exhibit (K,) relative to the piston, stationary mould, rack and tip bar, could candles be made thereby without injury to the body of the candles, and without breaking the tips more or less?

Answer. I don't think they could be.

76 Question 49. Have you any knowledge from manufacturers of candles as to the success and utility of the so-called Stainthorp machine in the manufacture of candles for market; and if so, what have you heard?

The last question is objected to by plaintiff's counsel as calling for hearsay evidence.

Answer. I have heard candle makers say they could not use them without damaging the candles.

Question 50. From your knowledge of the Stainthorp machine, constructed like defendant's exhibit (K,) and from all you have heard concerning it by candle manufacturers who have used such a machine, what, in your judgment as a mechanic, is the practical value or utility of such a machine for candle-making?

Plaintiff's counsel objects to the last question as incompetent.

Answer. They would be worth but a very little. They would be worth what the material would be worth, and perhaps a little more.

The witness, being cross-examined by plaintiff's counsel, further testified as follows:

Cross-question 51. Did you ever see a Stainthorp machine like defendant's exhibit (I) at work making candles? and if so, state when and where. Name all the times and places.

Answer. I saw them at Allen, Hays & Co.'s shop, in New York. That is the only place I ever saw them in operation. I never saw them in operation but once.

Cross-question 52. What were the machines doing when you saw them?

Answer. They were waiting to receive the tallow.

Cross-question 53. Were there any candles in those machines; and if so, in what part of them?

Answer. They were in the moulds.

Cross-question 54. Explain how the candles could have been in the moulds, if the machines were waiting to receive the tallow.

Defendant's counsel objects to the last question on the ground that the question is unfair and tricky, the witness not having testified that at the same time he saw the machines with moulds waiting to receive tallow, and at the same time the same moulds with candles therein; but, on the other hand, did testify that he saw such machines in the process of making candles in which open moulds to receive tallow, and moulds with candles therein, are but part of that process.

77 Answer. A part of the candles were shoved out of the moulds: that is, a part of the machines had candles in the moulds, and in others the candles had been shoved out while I was there.

Cross-question 55. In what part of the machines were the candles that were shoved out of the moulds.

Answer. They were hanging over the top of the machines in the racks.

Cross-question 56. Explain what you mean by the expression in your last answer, "hanging over the top of the machines."

Answer. Hanging over to receive the tallow.

Cross-question 57. Describe the position of these candles you have mentioned more definitely.

Answer. As they were shoved out of the moulds up into the racks, there to be held for the next pouring.

Cross-question 58. Do you mean to be there held by the racks in an upright position over the candle-moulds?

Answer. I mean to be held over the moulds, yes.

Cross-question 59. How many candle moulds were there in each of those machines, as near as you can judge?

Answer. I won't be positive, but I think there were ninety-six.

Cross-question 60. How many of the Stainthorp machines, such as you have testified to, like exhibit (I,) did you there see at work?

Answer. I cannot say whether there were five or six at that time.

Question 61. Was that the only time you ever saw those machines at work, and when was that time?

Answer. That was the only time I saw those four or six at work. I think it was in March, 1859.

Question 62. Why do you limit your last answer to those four or six machines?

Answer. Because I happened to be there at that time, and was not positive whether there were four or six machines at work.

Cross-question 63. Were you ever at Allen, Hays & Co.'s before or since that time; and if so, when?

Answer. I was there also in 1856 or 1857.

Cross-question 64. Did you, at the time you last mentioned, see there any candle machines?

Answer. I did.

Cross-question 65. Name all the different kinds of candle machines you saw there at that time?

78 Answer. I saw the Humiston machine, the so-called Camp manchine, and a long machine, so-called the Stainthorp machine.

Cross-question 66. What was the Stainthorp machine you have mentioned in your last answer doing at the time you saw it there?

Answer. It was doing nothing; they were doing nothing with it at that time.

Cross-question 67. Was that the only Stainthorp machine you saw at that time?

Answer. I won't be positive; I think there were two, and possibly three; I know there was one.

Cross-question 68. What were the other Stainthorp machines you then saw there doing at that time?

Answer. They were doing nothing, if there was more than one there, at the time I was there.

Cross-question 69. Were any of the four or six machines you have before spoken of there at that time?

The last question objected to by defendant's counsel, on the ground of frivolousness and immaterial for any of the purposes of this suit, and designed to consume the stipulated time for the defendant to close his testimony in this suit.

Answer. They were not.

Cross-question 70. Are you a brother of the defendant, Willis Humiston?

Answer. I am not.

Cross-question 71. Are you in any way related to the defendant? and if so, state what that relationship is.

Answer. He is supposed to be an uncle of mine.

Cross-question 72. Are you in the employ of the defendant; and if so, how long have you been in his employ?

Answer. I am in his employ, and have been so for about six years in all.

Cross-question 73. Have you ever manufactured candle machines in your own name; and if so, for whose account was the business carried on; and when was it, and for how long?

Answer. I have manufactured candle machines in my own name and for my own account; it was in the years 1859 and 1860, and for about one year.

Cross-question 74. By whom were you preceded, and by whom succeeded in the manufactory when you carried on the business referred to in your last answer?

Answer. The defendant.

79 Cross-question 75. Are you now interested in any manner in defendant's business? and if so, state what is your interest.

Answer. I have no interest, with the exception as a laborer.

Cross-question 76. Has the defendant ever taken back old Humiston machines in exchange for new?

Answer. He has, in cases where the sizes didn't suit the parties.

Cross-question 77. Has he ever taken them back for any other reason?

Answer. He has taken them back to put in iron frames instead of wood.

Cross-question 78. Has the defendant ever melted up any moulds of the Humiston machine?

Answer. Yes.

Cross-question 79. Where did he get them to melt up?

Answer. From different parties around the country.

Cross-question 80. Has the defendant ever broken up any of the Humiston machines?

Answer. He has, and they have been recasted and set in iron frames.

Cross-question 81. What kind of frames had those six Stainthorp machines that were sent up from Allen, Hays & Co.'s, where they were broken up?

Answer. They were iron frames.

Cross-question 82. What did the defendant do to them when he repaired them, besides putting on clamps?

Answer. I think the defendant did not repair them. I think they were repaired by me, or five of them were.

Cross-question 83. What did you do to them when you repaired them, besides putting on the clamps?

Answer. I put on ears to the bed piece, so that defendant's clamps could work on them. There were some other repairs, such as tips or such, but unless that I don't recollect what they were.

Cross-question 84. Was it before or after you saw them in operation at Allen, Hay & Co.'s, as you have before testified, that you repaired them?

Answer. It was afterwards.

Cross-question 85. Why did you not put jointed tip moulds in those five machines when they were sent back the last time?

Answer. We had no orders to do so; the orders were to put defendant's clamps on the machines when they were first sent up; the last time they were sent up we took them as old material, and fur-
80 nished new ones; such was the order.

Cross-question 86. When you took them as old material, did they not belong to you or the defendent, to do what you or he liked with them?

Answer. They were sent up to go as far as they would to pay for new ones of defendant's patent.

Cross-question 87. The same question repeated.

Answer. The same answer given in reply, the witness adding: That is all the answer I can give.

Cross-question 88. Could you or the defendant, if you or he liked, have sold them to any person who wished to buy them, or who might have wished to buy them?

Answer. We could not have done so very well until we had broken them down and weighed the old material that was in them to ascertain their value.

Cross-question 89. What part of the machine was made of the most valuable material, or, in other words, what part of an old machine does the greatest value consist?

Answer. In the moulds.

Cross-question 90. Was that the part you had to break down and weigh?

Answer. We had to separate the tips and moulds from the iron to ascertain the value.

Cross-question 91. Could you not have put the moulds back into the machine, and have put in the jointed tip moulds of the defendant's after you had weighed them?

Answer. We might possibly have put in the loose joint if we had orders so to do.

Cross-question 92. Why was not this done instead of breaking them up, if they belonged to the defendant after they were weighed?

Answer. For the reason that the moulds would not fit the Humiston machine, and that orders were for six new Humiston machines in lieu of the old Stainthorp machines.

Cross-question 93. I mean why did you not put the moulds back into the old Stainthorp machine frames you took them from, and put jointed tip moulds with them, as in your Humiston machine?

The last question objected to by defendant's counsel, for the reason that the question has been already fully answered by the witness, the same having been put and repeated several times in different forms, and that it is immaterial for any of the purposes of this suit, and its repetition in a different form is intended by plaintiff's counsel
81 to occupy the stipulated time for the defendant to close his testimony.

Answer. For the reason we had no orders to do so.

Cross-question 94. Is that the only reason you can give?

Answer. It is the only reason I can give on that point, because we made no machines except to order.

The cross-examination of the witness was here concluded, and the direct examination again resumed, and the witness further testified as follows:

Question 95. In your cross-examination you state that the defendant has received old machines of his own make for new machines: were those old machines so received because they were not valuable and useful, and were the new machines for which they were exchanged built under defendant's patent, and did they contain the same improvement as the old machine?

The last question objected to by plaintiffs' counsel as irrelevant, incompetent, immaterial, and as leading.

Answer. The old machines were not so received because they were not valuable and useful; the new machines for which they were exchanged were built under defendant's patent, and did contain the same improvements as the old machine?

Question 96. Were the Stainthorp machines so received because they were valueless and useless as machines for manufacturing candles?

The plaintiffs' counsel objects to the last question as incompetent.

Answer. They were so received.

Question 97. Did you ever hear or know of an instance of a failure in the Humiston machine as a machine for the manufacturing of candles?

Answer. Not since I have been in the business, for seven years; I know of no failure before.

GEORGE W. HUMISTON.

Subscribed and sworn to, before me, this 23d day of November, 1863.

JOHN T. LAMPORT, *U. S. Examiner.*

Adjourned by consent of counsel to November 24th, 1863, at 10 o'clock A. M. of the same place.

82 United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE
vs.
WILLIS HUMISTON. } In equity.

November 24th, 1863, at the office of M. P. Norton, esq., Troy.

Parties appeared pursuant to adjournment, to wit: The plaintiffs by A. D. Lyon, esq., counsel, and the defendant in person, and by his counsel, M. P. Norton, esq.

The defendant produced as a witness Eames Stanley, junior, who was by me duly sworn and testified as follows:

Question 1. What is your name, age, occupation, and place of residence?

Answer. My name is Eames Stanley, junior; I am a soap and candle manufacturer, and reside in the city of Troy, in the State of New York.

Question 2. State how long you have resided in the city of Troy, and how long you have been engaged in the business of manufacturing soap and candles.

Answer. I have resided in Troy twenty-three years; I went to work at the soap and candle business when I came to Troy, and have been engaged in the same ever since, with the exception of three years, or about that time.

Question 3. Are you acquainted with the plaintiffs in this suit, or either of them; and if so, which, and when did you first become so acquainted?

Answer. I am acquainted with John Stainthorp, but not with Stephen Seguine. I became acquainted with Stainthorp not later than the spring of 1856.

Question 4. Do you know the defendant in this suit; and if so, how long have you known him?

Answer. I know the defendant, and have known him I cannot tell exactly how long; it may be fifteen years.

Question 5. Have you been engaged in the manufacture of candles by machinery; and if so, for about how long?

Answer. Yes, sir, for about seven years.

Question 6. During that length of time have you been somewhat extensively engaged in so manufacturing candles?

83 The last question is objected by plaintiff's counsel as immaterial and incompetent.

Answer. We have manufactured considerable many candles. Our business is principally making candles.

The defendant's counsel here offers in evidence a candle machine, marked in burnt letters "Stainthorp's patent, March 6, 1855, Buffalo, N. Y.," and containing thirty-two stationary moulds firmly or rigidly connected therewith, and also containing a rack and tip bar arranged

over one row of candle moulds, and which is here marked defendants' exhibit "R."

The plaintiff's counsel objects to the production of the last exhibit marked (R) as being incompetent, immaterial, and improper.

Question 7. Have you ever seen a candle machine like defendant's exhibit (R;) and if so, when, where, and by whom was it shown to you, if by any one?

Answer. I have; it was shown to me by John Stainthorp, in Barton's factory, in Troy, N. Y., the first time I ever saw him, which was not later than the spring of 1856; it might have been earlier than that.

Question 8. Was the Stainthorp who exhibited to you such machine at that time one of the plaintiffs in this suit, and did he at that time represent himself to be the patentee and inventor of said machine? and if so, state fully in relation thereto, as you recollect.

The last question objected to by plaintiffs' counsel as incompetent, leading, and calling for the opinion of the witness.

Answer. He offered to me a right in the machine, and wanted to sell a right; he was the maker of the machine I saw there on exhibition; his name was John Stainthorp, and represented himself at that time to be the patentee and inventor of the machine. He told me he would let me have a right for fifty dollars; I don't know that there was anything more said particularly.

Question 9. Did you purchase of Mr. Stainthorp the right to use said machine so exhibited to you.

Plaintiffs' counsel objects to the last question as being incompetent and immaterial.

Answer. I did not?

Question 10. Why not?

The last question objected to by plaintiff's counsel as incompetent and immaterial.

Answer. I did not think it worth it.

Question 11. What opinion did you on that occasion form, if any, as to the utility and practical usefulness of said machine for
84 manufacturing candles, judging from your experience as a candle manufacturer?

Plaintiffs' counsel objects to the last question as being incompetent and improper.

Answer. I did not think the machine much over and above the old mode of making candles. as I saw it.

Question 12. Have you, since that time, seen any other machines like defendant's exhibit (R;) and if so, where?

Answer. I have, at Buffalo.

Question 13. What candle machines have you now in use, and about how many, and for how long have you used them?

The last question is objected to by plaintiffs' counsel as immaterial and incompetent.

Answer. We have Humiston machines, five of them, and have used them for seven years since we got the first.

Question 14. Do these machines give you perfect satisfaction in all their operations in the manufacture of candles?

Answer. They do.

Question 15. From your knowledge of these machines, state whether or not you consider them an improvement over the old mode of manufacturing candles.

The last question objected to by plaintiffs' counsel as leading and incompetent.

Answer. I do; I consider them an improvement over anything I have seen.

Question 16. State whether or not you consider the Humiston machine an improvement over the Stainthorp machine for making candles, or over any other machine for the same purpose within your knowledge.

The last question objected to by plaintiffs' counsel as leading and incompetent, calling for the opinion of the witness.

Answer. I think they are.

Question 17. Do you manufacture candles in the Humiston machine in considerable large quantities at one time and operation of each machine, without injury to the body of the candle, and without breaking or injury to the candle tip?

The last question objected to by plaintiffs' counsel as incompetent.

Answer. Our machines draw twelve pounds of candles, of eight in size to the pound. They are sound and in good order.

Recess to 2½ o'clock p. m.

85 Nov. 24th, 1863—2½ o'clock p. m.

The same witness, being cross-examined by plaintiff's counsel, testified as follows:

Cross-question 18. Are you a mechanic?

Answer. I am a soap and candle maker.

Cross-question 19. Were you ever engaged in manufacturing candle machines or are you now so engaged?

Answer. No.

Cross-question 20. Did you ever manufacture any machines of any kind?

Answer. No

Cross-question 21. How many different patterns of candle machines did you ever see, and what were the names of the different patentees or inventors?

Answer. I have seen four. They were Humiston's, Stainthorp's, King's, and a machine Mr. Eldridge used to use in his business; I don't know the name of the patentee or maker of it.

Cross-question 22. Whose machines have you used in the manufacture of candles?

Answer. Humiston's.

Cross-question 23. What other machines besides Humiston's have you used?

Answer. I never used any, except to fill them for others?

Cross-question 24. Did you ever fill any of the Stainthorp machines for others?

Answer. If I ever filled any, I should have done so for him. I never did.

Cross-question 25. Did you ever use, either for yourself or others, any Stainthorp machine?

Answer. No.

Cross-question 26. Have you examined the defendant's exhibit (I) in suit?

The question is objected to by defendant's counsel, on the grounds that it relates entirely to matter upon which the witness was not examined in chief.

Answer. I do not know anything about that.

Cross-question 27. Are you alone in business, or have you a partner?

Answer. I have a partner, the firm is composed of E. Stanley & Son.

Cross-question 28. Have you ever seen any of the Stainthorp candle machines being used in the manufacture of candles?

Answer. Yes, sir.

86 Cross-question 29. How many Stainthorp machines have you ever seen in use, and where did you see them?

Answer. I saw one here in Troy. I saw a dozen or more of them in the city of Buffalo. They were not in immediate use at the time I saw them, but was told that I could see them in operation the next day if I would call. I have seen no others that I know of.

Cross-question 30. What is the largest number of candles that could be made at a time, or at one filling, in any Stainthorp machine that you ever saw?

Answer. The machines that I saw in Buffalo were about the size of defendant's exhibit (R,) and there may have been some a little longer than said exhibit.

Cross-question 31. Have you examined defendant's exhibit (I?)

Answer. I have just looked at it, if that is what you call exhibit (I.)

Cross-question 32. Is that a Stainthorp machine, said exhibit (I?)

Answer. It has got the name on it, I think.

Cross-question 33. How many pounds of candles, in your opinion, can be made at one time in a perfect machine of the size of exhibit (I?)

The defendant's counsel objects to the last question, as calling for matter about which the witness was not interrogated on his direct examination.

Answer. From what I see of it just now, I should judge that it would make twelve pounds, and perhaps more; it depends upon the size of the candles.

Cross-question 34. Did you ever use any candle machine for making candles before you used the Humiston machine?

Answer. No, sir.

Cross-question 35. Are defendant's exhibits (I) and (R) both Stainthorp machines, or his invention for candle making?

The last question objected to by defendant's counsel for the same reasons as last above stated.

Answer. He calls them his invention.

Cross-question 36. Are defendant's exhibits (I) and (R) both of Stainthorp's pattern?

Answer. Exhibit (R) must be his pattern, because it is like one he showed me in Troy and called his invention.

All I know of exhibit (I) is, that I saw a machine in New York which was called his; it was at Stainthorp's place, which was like exhibit (I) in its essential features.

87 Cross-question 37. Did you ever see Stainthorp's machine like exhibit (I) being used in the manufacture of candles?

Answer. No, sir.

Cross-question 38. Did you ever see Stainthorp's machine being used in the manufacture of candles, except those like exhibit (R)?

Answer. No, sir.

Cross-question 39. Did you think that exhibit (I) is an improvement on exhibit (R)?

Answer I do. I should rather have exhibit (I) if I was going to make candles than exhibit (R.)

Cross-question 40. What mode of making candles did you refer to in your answer to question 11 as the old mode?

Answer. I ment the mode of making candles by hand stands.

Cross-question 41. Describe the process of making candles by the hand stands, or how were they made by the hand stands?

Answer. We used to put six stands on a table empty. We drew the wick into the moulds by hand singly, one at a time; then put in the wires into the loop of the wicks; then centre the wicks, and then set the stands on the floor ready for filling; then fill them with melted material, and after they are cooled, draw the wires and scrape off the surplus material, and then set them off to cool more thoroughly; then pop them by hand; then put the stands on the table, clip the ends of the wicks, and then the candles are drawn out of the moulds about half way singly by hand with an awl, and then with a paper in the hand draw them entirely out of the moulds and place them in boxes.

Cross-question 42. Is the manufacturing of candles by defendant's exhibit (I) an improvement on said old mode?

Answer. I should have to use exhibit (I) to give you an answer.

Cross-question 42. Would, in your opinion, a Stainthorp machine like exhibit (I) that was perfect, be an improvement on the old mode of manufacturing candles?

Answer. I should think it would be an improvement over the old hand mode of making candles.

Cross-question 44. How many candles in number can be made in defendant's exhibit (I) at one time, or at one filling of the moulds?

Answer. I should think it large enough to make ninety-six candles of the size called "*eights*" at one time.

88 Cross-question 45. Are you a relative of the defendant Humiston?

Answer. No, sir.

Cross-question 46. Can you give the conversation as it occurred at that time, to which you referred in your answer to question eight?

Answer. The conversation was in relation to the machine, or the right in it ; I don't think I can give the language of the conversation as it occurred ; he gave me his address at Buffalo ; he offered me the right for fifty dollars, and I told him I would not give it, and that I didn't want it.

Plaintiffs' counsel objects to all that part of the last answer of the witness after the word "occurred," on the ground that it is not responsive to his question, and was not called for by him.

The cross-examination of the witness was here concluded, and on his redirect examination by defendant's counsel he further testified as follows :

Question 47. On your cross-examination you say you have never used a Stainthorp candle machine have you ever used any candle machine like the Stainthorp machine in principle or construction for the purpose of manufacturing candles at your establishment ?

Answer. I have used Humiston's, but I have never used a machine like Stainthorp's for making candles, nor one like exhibit (R.)

Cross-question 48. In answer to question No. 46, you state some conversation that took place between yourself and the plantiff Stainthorp which was objected to by plaintiffs' counsel. Did that conversation take place as stated by you in that answer, and between you and Stainthorp ?

Answer. It did.

The redirect examination of the witness by defendant's counsel was here concluded, and he was further interrogated by plaintiffs' counsel on a re-cross-examination, and testified as follows :

Cross-question 49. What is the difference in principle and construction between Stainthorp's candle machine and the Humiston candle machine or machines that you now use as testified to by you ?

Defendant's counsel objects to the last question, on the ground that witness has not been interrogated either upon his direct or redirect examination as to the difference between the Humiston and Stainthorp machines, and, second, defendant has not offered the witness as an expert upon that subject.

89 Answer. You go with me to my shop and I will show you the difference very quick. I don't know any other answer.

Cross-question 50. Is or is there not any difference between the principle and construction of defendant's exhibit (I) and the Humiston candle machine which you use ?

Defendant's counsel objects to the last question, on the ground that the cross-examination of this witness was closed by plaintiffs' counsel, and so entered on the record and that the witness on his redirect examination was not interrogated upon the subject-matter referred to in the question.

Answer. The last question covers the one put before it as I judge, and my answer is the same, and I have nothing else to add.

Plaintiffs' counsel objects to the last answer, on the ground that it is not responsive to the last question.

Cross-question 51. How are you able to give that part of the conversation referred to, and which you gave in answer to question No.

48, and also in questions No. 8 and 46, better than the rest of the conversation that occurred at that time ?

Answer. I don't know of any other conversation.

Cross-question 52. Will you swear positively that you have given all the conversation that occurred at that time or the time referred to in your answer to question No. 8 ?

Answer. Of course I would not swear to that.

E. STANLEY, JR.

Subscribed and sworn to before me, this 24th day of November, 1863.

JOHN T. LAMPORT,
U. S. Examiner in Equity.

Defendant's counsel here offers in evidence a letter dated Bureau of Agricultural Statistics, Patent Office, Quebec, May, 30th 1863, signed E. Campbell, acting secretary, and addressed to Marcus P. Norton, Troy, United States, and which letter is in the following words and figures, and is marked defendant's exhibit (S,) to wit:

"BUREAU OF AGRICULTURE AND STATISTICS,
"*Patent Office, Quebec, May* 30, 1863.

"SIR : I beg to acknowledge the receipt of yours of the 22d instant. Mr. John Stainthorp's patent for an improvement in machinery for the manufacture of candles is dated the 24th of September, 1855.

90 "Patents are issued only to British residents of Canada for their inventions, and the applicants must make a solemn declaration to that effect. Aliens coming to Canada, with intent to settle therein, must, after a continued residence therein, for a period of three years or upwards, take the oaths or affirmations of residence and allegiance, and procure the same to be filed of record in some of the courts, which will grant a certificate of naturalization, if the oaths, after having been openly read in the courts, are found unobjectionable.

"I remain, sir, your ob't sev't,

"E. CAMPBELL, *Acting Sec'y.*

"MARCUS P. NORTON, Esq.,
"*Attorney at Law, Troy, United States.*"

The plaintiffs' counsel objects to the introduction of said letter as immaterial and improper.

Defendant's counsel also offers in evidence an instrument in writing executed by John Stainthorp and Stephen Seguine and John W. Hunter, and delivered to Willis Humiston, defendant, and recorded in the U. S Patent Office, July 11th, 1861, in Liber G[6], page 317 of Transfers of Patents, and which instrument bears date and seal the 3d day of February, 1860, and which is marked defendant's exhibit (T,) and which is in the following words, to wit:

"To all to whom these presents shall come, or may concern, greeting:

"Know ye, that we, John Stainthorp, of the city of Brooklyn, John W. Hunter, of the city of New York, and Stephen Seguine, of the city of New York, for and in consideration of the sum of one dollar, and other good and valuable consideration to us in hand paid by Willis Humiston,

of the city of Troy, in the State of York, the receipt of which is hereby acknowledged, have remised, released, and forever discharged, and by these presents do, for ourselves and each of us, and our and each of our heirs, executors, and administrators remise, release, and forever discharge the said Willis Humiston, his heirs, executors, and administrators, of and from all manner of action and actions, cause and causes of action, suits, debts, dues, sums of money, accounts, reckonings, bonds, bills, specialties, covenants, contracts, controversies, agreements, promises, variances, trespasses, damages, judgments, extents, executions, claims, and demands whatsoever, in law or in equity, which against him we, or any of us, ever had, now have,
91 or which one, or of any our heirs, executors, or administrators hereafter can, may, or shall have for, upon or by mans of any, infringement or alleged infringement of any letters patent wh t soever except only the costs in the suit by John Stainthorp, John W. Hunter, and Stephen Seguine, complainants, against Willis Humiston, defendant, in the circuit court of the United States for the southern district of New York. In witness whereof we have hereunto set our hands and seals, the third day of February, in the year of our Lord one thousand eight hundred and sixty.

"Sealed and delivered in the presence of

"JOHN STAINTHORP, [L. S.]
"STEPHEN SEGUINE, [L. S.]
"JOHN W. HUNTER, [L. S.]

"U. S. Patent Office. Received and recorded July 11th, 1861, in Liber G^{6}, page 317, of transfers of patents.

[L. S.] In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed.

"D. P. HOLLOWAY, *Commissioner of Patents.*"

Plaintiffs' counsel objects to the introduction of the instrument last offered, on the ground that it is incompetent, immaterial and improper.

Adjourned by consent of counsel to Saturday, the 28th November, 1863, at 10 o'clock a. m., at the same place.

United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE *vs.* WILLIS HUMISTON. } In equity.

The plaintiffs appeared by M. B. Andrus, esq., as their counsel, and the defendant by Marcus P. Norton, esq., as his counsel, this 28th day of November, 1863, at 10 o'clock a. m., at the office of M. P. Norton, esq., Troy, and thereupon the defendant's counsel produced Cyrus A. Sherwood as a witness, who, being by me duly sworn, testified as follows:

Question 1. Have you been examined as a witness or expert in this suit; and if so, about what time?

Answer. I have been examined as a witness in this case, some time in the month of July last.

92 Question 2. Have you recently examined defendant's exhibit (LL) and (MM.) now shown you? And if so, state what they are, and the combination, if any, found therein.

Answer. I have examined them (LL) is a candle mould and tip mould, (MM) is also a candle mould and tip mould. (LL.) with the combination of the tip mould, it being necessary, in order to cast the candle, to combine the two together, they being separate pieces, and the same is the case with (MM.)

Question 3. State whether or not you find in defendant's exhibit(H) the same kind of stationary candle mould and candle tip mould as that which you say in your last answer you find in defendant's exhibit (MM.)

Answer. I do find the same stationary mould, with the same combination of tip mould therewith.

Cross-question 4. Look at defendant's exhibit (D,) and especially at sheet No. 1, drawing A, and figures 1 and 2 thereof, and state whether or not you there find "stationary candle-tip mould" in combination in the manner and for the purposes you have above testified.

Answer. I have examined the drawing, and I find therein the candle mould and tip mould combined, as I have previously testified.

Question 5. Look at defendant's exhibit (B,) and especially at figures 6 and 7, and also at figures 3 and 10, and state whether or not you find there shown stationary candle moulds and candle tip-moulds like, and in combination the same as, defendant's exhibit (LL.)

Answer. I have examined the drawing, and said candle moulds and tip moulds represented as in the exhibit (LL.)

Question 6. Having carefully examined the Humiston candle machine marked defendant's exhibit (H,) and also the drawing, sheet 1 of defendant's exhibit (D,) and also the drawings of defendant's exhibit (B.) what is the difference in combination of the candle-tip mould and the stationary candle mould which you say you find in each of these exhibits?

Answer. I do not find any difference in the combination.

Question 7. State the difference, if any, in the connexion of the piston and drive-rod with candle mould, in these several exhibits referred to in your last answer, and also in exhibits (LL) and (MM) now before you.

The last question is objected to by plaintiffs' counsel, as assuming the existence of facts which are not shown to exist.

93 Defendant's counsel withdraws the last question for the present.

Question 8. State whether or not you find in these several exhibits, a piston or drive-rod; and if so, state their purpose.

Answer. I do find pistons or drive-rods in each of these exhibits, for the purpose of forcing out the candles from the mould, operating against the lower end of the tip mould.

Question 9. State whether or not these drive-rods are connected with the candle-tip moulds; and if so, describe the manner thereof.

Answer. They are connected with the candle-tip moulds in exhibits (LL) and (MM) both. In (LL) they are connected by means of a spring, but the spring is not shown in that exhibit. The spring, how-

ever, is shown in exhibit (B.) In (MM) it is connected by a universal or flexible joint made stationary, to prevent any separation, and it is the same in exhibit (H,) the Humiston machine. Exhibit (D) does not show any drive-rods—drive-rods are shown in exhibit (B,) and they are called rammers.

Question 10. State whether or not the same effect upon the candle in moulding and forcing the same from the stationary candle mould in the Humiston machine, marked defendant's exhibit (H,) is produced as in and by defendant's exhibits (L, L,) and in and by that part or combination described by you in defendant's exhibit (B) and (D)?

The last question is objected to by plaintiffs' counsel because it does not appear that the witness has ever seen a machine operate having in it devices like those represented by exhibit(L, L,) or (B,) or (D,) nor does it appear that the witness is an expert in the candle-making business.

Answer. In my judgment the effect would be the same.

Question 11. Do you understand the operation of the Humiston machine for the manufacture of candles?

Answer. I do.

Question 12. State whether or not you have read the specification and examined the drawings of defendant's exhibit (B;) and if so, do you understand the same; and also have you examined the drawings, sheet one, of defendant's exhibit (D;) and if so, do you understand that also?

94 Answer. I have examined each of them, and understand the same.

Question 13. Look at defendant's exhibit (P,) and especially at figures 1 and 2, and state what A, B, C, marked thereon, represent.

Answer. A, of figure 1, represents candle moulds, and also in figure 2. B and B represent tip moulds in figures 1 and 2. C and C represent drive-rods in figures 1 and 2.

Question 14. State whether or not the several parts or devices which you have referred to in your last answer are found in the Humiston machine, defendant's exhibit (H,) and in the Morgan machine, described in the certified copy of his patent, No. 6610, marked defendant's exhibits (B,) and also in drawings A, sheet 1, of the Morgan & Gaskell patent No. 14186, marked defendant's exhibit (D)?

Answer. I find the same in each of said exhibits—I mean the same parts and devices as shown in exhibit (P,) figures 1 and 2.

Question 15. Look at defendant's exhibit (R,) and especially the apparatus for holding candles, after being ejected from the moulds, and also at defendant's exhibit (J,) being the Stainthorp machine, and especially that part for holding the candles after being ejected from the moulds, marked defendant's exhibit (JJ,) and state whether these devices for holding candles after ejection from the moulds are the same in construction and operation.

The last question is objected to by plaintiffs' counsel, because it assumes that exhibit (J) and exhibit (JJ) are parts of Stainthorp's machine, whereas it does not appear in the case that Stainthorp ever made, or had made, or saw the machine referred to, or any part of it.

Nor does it appear in the case that Stainthorp made or had made the machine marked exhibit (R) under letters patent granted to him, and on which this suit was brought, and also as immaterial.

Answer. I do not find the devices referred to the same in each.

Question 16. In the operation of defendant's exhibit (R,) in the ejection of candles from the candle moulds into the rack and tip bar above said moulds, what in your best judgment would be the effect produced upon the candles thus ejected, and upon the tips thereof, as the same are being taken from the candle-tip mould below?

The last question is objected to by plaintiffs' counsel.

Answer. The candles would be marred and the tips broken more or less.

95 Question 17. Look at defendant's exhibit (K,) and especially at the rack and tip bar, and state whether or not they are the same in operation and in principle as the rack and tip bar found in defendant's exhibit (R.)

Answer. In my opinion they are the same in operation and principle, and the same effect would be produced by their operation.

Question 18. Have you read, and if so, do you understand, the Stainthorp patent in suit?

Answer. I have read it and think I understand it.

Question 19. State whether or not defendant's exhibit (R) contains the candle moulds and pistons with tip moulds in the upper end thereof; and also the rack and tip bar described in that patent, and covered by the first and second claims thereof, as to principal and operation.

The last question is objected to by plaintiffs' counsel.

Answer. I find them all there in exhibit (R,) and the same in principle and operation as described in the specification of Stainthorp's patent.

The witness being cross-examined by the plaintiffs' counsel, further testified as follows:

Cross-question 20. In your answer to the ninth direct interrogatory, you state that the drive-rods (L. L) are connected with tip moulds; during what time in the operation of candle manufacture are they so connected, and to whose machine does exhibits (L, L) belong?

The first branch of the last question is objected to by defendant's counsel as immaterial.

Answer. They remain connected while forcing the candle out of the mould, and until the tip mould recedes to the bottom of the candle mould, its former position, and the exhibits (L, L) belong to the Morgan & Gaskell machine.

Cross-question 21. Does the Morgan and Gaskell patent of 1852, or the Morgan patent of 1834, show any other connexion of the drive-rod or rammer with the mould than during the time the candles are being ejected from the moulds, and the tip mould is being brought to the bottom of the mould?

Answer. They do not, as I can discover.

Cross-question 22. What is the position of the candle moulds, when the candles are being pushed out of them, in the machines last referred to, horizontal or otherwise?

The last question is objected to by defendant's counsel:
First, as immaterial; and,
Second, the position referred to in the question forms no part of the plaintiffs' patent in suit; and,
96 Third, position as referred to in the question is not subject-matter patentable.
Answer. Horizontal, as I understand it.
Cross-question 23. Do not each of the above patents show that the candles in the candle machines therein referred to are first run into moulds placed upon a separate frame, and that after the candles become hard or set the moulds containing them are removed from this frame in which they were cast, and placed horizontally before ramming mechanism disconnected from the first frame, and the candles then pushed out of the moulds by this ramming mechanism, the moulds containing the candles being placed in a horizontal position before the rammers?
The last question is objected to by defendant's counsel as immaterial and irrelevant.
Answer. The way that I understand these patents is, that the moulds, after being filled, are removed on the platform with their frame and carried thereon to the rammers. The frame and moulds are then turned down from a perpendicular to a horizontal position, and then forced out by the rammers. The patent shows that moulds in their frames are removed on a railway to the rammers.
Adjourned to Tuesday, Dec. 1, 1863, at four o'clock p. m., by consent of counsel of both parties, without concluding the cross-examination of the witness Sherwood.

TUESDAY, *Dec.* 1, 1863—4 o'clock p. m.

Examination in preceding case is hereby resumed at M. P. Norton's office, in Troy, in presence of Mr. Norton, counsel for defendant, and Mr. Andrus, counsel for plaintiff, before Augustus A. Boyce, U. S. examiner. The said witness, Cyrus A. Sherwood, on his further cross-examination by said plaintiffs' counsel, further testifies:
Question 24. Then, in your direct examination, when you state that you find a combination existing between the tip moulds and drive rods or rammers in the Morgan machine, or in the Morgan & Gaskel machine, or in the several exhibits representing said machine in whole or in part, you mean, do you not, that you find such combinations existing only during the operation of pushing the candles out of the moulds, and withdrawing the rammers therefrom?
Answer. As I understand it, the combination exists in the several exhibits, with the exception of the detaching of the rammers from the tip mould in the Morgan & Gaskell machines.
97 Question 25. Then I understand you to mean that a combination exists between the tip moulds and the candle moulds in the Morgan machine, and in the Morgan & Gaskell machine, during the operation of ejecting the candles from the moulds when placed in a horizontal position before the rammers, and also while withdrawing the rammers from the moulds; is this what you mean to be understood

by your statements in the direct examination, that there is a combination existing in the Morgan machine, or in the Morgan & Gaskell machine, between the rammers or drive-rods and the tip moulds?

Answer. I mean that while the moulds are in connexion with the drive-rods in a horizontal position, preparatory to pushing the candles, the combination is full; and, when detached, there is a partial combination.

Question 26. When the tip-moulds are detached from the rammers in the Morgan, or in the Morgan & Gaskell machine, please state wherein you find a partial combination between the tip moulds and rammers.

Answer. The partial combination, as I understand it, consists in the end of the tip moulds being prepared expressly to receive the rammers, and the rammers prepared for the moulds also, and the machine could not be used without them, is the point in which I understand the "partial combination" to consist.

Question 27. Then you mean, do you not, by the term "partial combination," as used by you in this examination, that the end of the tip mould in the Morgan machine, and also in the Morgan & Gaskell machine, is adapted to secure and hold the end of the rammers as they are moved up to the ends of the tip moulds to eject the candles out?

Answer. I mean to be understood that they are so arranged for that purpose, and this is what I mean by the term partial combination.

Question 28. Is this also what you mean in your examination when you speak of there being a combination between the tip moulds and the rammers in the Morgan machine, and in the Morgan & Gaskell machine?

Answer. That is what I meant by the combination between the tip moulds and the rammers.

Question 29. When are the tip moulds disconnected from the rammers in the Morgan machine and the Morgan & Gaskell machine?

Answer. After the candle has been ejected from the candle mould and the tip mould drawn back to its former position; that is, as I understand it.

98 Question 30. What is then done with this set of moulds from which the candles have been ejected?

Answer. They are removed by a railway to the fountain for refilling with melted tallow.

Question 31. Do you not find in the Humiston machine a permanent connexion existing between the drive-rods in these machines and the moulds for the tips of the candles to rest in?

Answer. I find in the Humiston machine a flexible joint connecting the drive-rods with the tip moulds not designed to be separated.

Question 32. Do you mean in your last answer to state that there is a permanent connexion between the tip moulds and drive-rods in the Humiston machine?

Objected to on the ground, first, that the question is vague and uncertain in using the language to the witness "permanent connexion" between the tip mould and drive-rods in the Humiston machine; second, that the witness has already fully answered the question in

the last answer by stating that the drive-rod and tip mould were connected by a "flexible joint" only; and, third, as designed by a continued repetition of the words "permanent connexion" to mislead the witness.

Complainant's counsel disclaims any idea or intention of entrapping the witness.

Answer. I mean to be understood that the tip mould and drive-rod are not designed to be separated at any period of their operation in the manufacture of candles.

Question 33. Are the rammers and tip moulds designed, organized, and arranged to be separated in the Morgan machine and in the Morgan & Gaskell machine, during the operation of making candles?

Answer. As I understand the thing, they are designed to be separated.

Question 34. Are not different sets of candle moulds to be used in the manufacture of candles in the Morgan machine, and in the Morgan & Gaskell improvement thereof?

Answer. There are, as I understand it.

Question 35. State how many sets of candle moulds are intended to be used in the organization or operation of either of the Humiston machine or the Stainthorp machine. I mean in one separate machine.

Defendant's counsel objects to the question on the ground of uncertainty in using the language "sets of candle moulds;" 2d, as immaterial; and 3d, the capacity of the Stainthorp machine is not
99 the subject-matter of plaintiffs' patent or of the first clause thereof, on which this suit is brought.

Complainants' counsel replies that it nowhere appears in this case that the complainants' claim against the defendant for infringements of their patent is limited to the first claim thereof, but it does appear in the bill of complaint that the defendant is charged with the infringement of said patent generally, by the manufacture, use, and sale of candle machines, using and employing inventions and improvements patented in and by said patent.

Defendant's counsel replies to the statement of complainants' counsel that the bill charges substantially the construction and vending of candle machines, which in some parts thereof infringed the first claim of plaintiffs' patent, and that the plaintiffs have taken and closed their testimony in this case, all of which referred only to the first claim of plaintiffs' patent, and that there is no pretence either in the bill or proofs by plaintiffs therein of an infringement upon any other part of the plaintiffs' patent than the special combination covered by the first claim of their patent; that that claim does not relate to or cover the capacity of any candle machine, and only relates to one old combination of two old and well-known devices found in the Morgan and Gaskell machines, used for substantially the same purpose as described in the defendants' answer.

Complainants' counsel replies to the statements of the defendant's counsel that the points made in his foregoing statement would be more properly settled by reference to the record made in the case than by any statement of his made therein, and he objects to the

statements above made being taken or received as evidence in this case, whether the same be regarded as the statement of the examiner or of the counsel therein.

Defendant's counsel refers to the record for the truthfulness of the statement made by him.

Answer. I have always understood the number used in such machine to constitute a set; I don't know the number used in any of these machines; I have never counted them.

Question 36. Does not the Morgan machine and the Morgan & Gaskell machine, as represented by their patents and drawings, employ various sets of candle moulds in the manufacture of candles?

Objected to by defendant's counsel on the ground that in the witness' last answer he stated that he did not know the number
100 or sets of candle moulds used in any of these machines; that he had never counted them; and that such answer is a full and faithful answer to the last question.

Answer. If my memory serves me, after reading the specifications, they do employ a number of machines in the manufacture of candles.

Question 37. Do you mean in your last answer that various separate sets of candle moulds are employed in the machines last referred to in the manufacture of candles?

Objected to by defendant's counsel as having been fully answered in the last answer; and second, that the continued repetition by complainants' counsel of questions in different forms is intended to occupy the stipulated time for closing defendant's testimony.

Complainant's counsel replies that his intention is far as possible from the purpose suggested in the last objection, and he avows his intention and purpose to be to facilitate as much as possible the taking of all the testimony within the time stipulated, and hopes that the defendant's counsel will co-operate with him by avoiding all unnecessary delay, interruptions, and objections.

Defendant's counsel replies to the statement, and says that he will most earnestly co-operate with complainant's counsel in the taking of the testimony in this cause, if the plaintiff's counsel will confine himself to the subject-matter of the plaintiff's patent, and avoid the putting and repetition of questions to the witness which are immaterial and foreign to the issue in this case.

Complainant's counsel replies that he should be very glad to confine himself to the subject-matter of the plaintiff's patent; that the defendant has lugged into the case an old patent or two which complainant's counsel conceives has little or nothing to do with the case; and in order to show its entire inapplicability to the subject-matter in controversy, it is necessary that these old patents and machines alleged to have been made and operated according to them should be properly exhibited to the court, so that the court may see how little or how much they have to do with the case.

Defendant's counsel replies that every patent, every machine, and every exhibit brought into this case by defendant has a direct and positive bearing upon every issue of fact or matter in the case, although it may be true, as stated by complainant's counsel, that he, plaintiff's

counsel, has not the capacity, mechanical ingenuity, sufficient
101 to understand the bearing and effect of these exhibits upon the issues of the case.

Answer. That is what I mean.

Question 38. Why is it necessary in the Morgan machine of 1834, and also in the Morgan & Gaskell machine of 1852, to remove the moulds from the standards holding the moulds from the place when the moulds are filled, and then place them in a horizontal position before the rammers before the candles are ejected from them?

Objected to by defendant's counsel on the grounds that it does not appear from the examination of the witness, or from the Morgan patent of 1844, or from the Morgan & Gaskell patent of 1852, that it is necessary to remove the moulds and standards as stated in the question.

Answer. I don't recollect exactly what the specification says on that subject; I suppose the object in removing them to a horizontal position was for saving the expense of the machines, and ejecting the candles on a level surface, thereby preventing the marring or breaking of the candles.

Question 39. Then you regard it as a saving of expense, do you not, in removing the candle moulds from the place where they are filled and take them to another place and laying the moulds down horizontally before rammers, over the mode of ejecting the candles from stationary moulds in an organized machine, into a receptacle for the candles placed above the moulds?

Objected to by plaintiffs' counsel, on the ground that the witness, upon his direct examination, did not testify to anything relative to the subject-matter of the question; and further, that it is irrelevant and immaterial for any of the purposes of this suit; and for a further objection, the putting of such questions to the witness is designed by plaintiffs' counsel to unnecessarily occupy the stipulated time for closing this testimony.

Complainants' counsel disclaims any such design.

Answer. In my judgment the making of the candle machines would cost less in the Morgan and Gaskell form than in the form of a machine with pistons or rammers connected with each machine, but the moulding of the candles would cost more in the Morgan & Gaskell machines than it does in the finished machine. I mean by finished machine when the pistons are all connected to the tip moulds.

Question 40. The pistons are all connected to the tip moulds, are they not, in both the Stainthorp and the Humiston machines?

102 Answer. They are connected in both machines.

Question 41. During what time, in the operation of making candles and ejecting the candles from the moulds in the Humiston and Stainthorp machines, are the pistons or drive-rods, or rammers, connected with the tip moulds?

Answer. During all the time in the making of candles and throwing them out of the moulds.

Question 42. Then in the Morgan machine of 1834, and in the Morgan & Gaskell machine of 1852, you find a difference, do you not,

as to the time during which the rammers in the machines remain connected to the tip moulds, and the time during which the pistons or drive-rods in the Humiston and Stainthorp machines remain connected with the tip moulds?

Objected to by defendant's counsel on the ground that the witness, on the direct examination, was not examined as to any difference between the Humiston and Stainthorp machine; and, second, that the subject-matter inquired about is wholly and entirely immaterial for any of the purposes of this suit.

Answer. In my judgment the difference of time has relation to the time a candle is poured until it is ejected from the mould.

Question 43. From the time the tallow is poured into the moulds in the Humiston and Stainthorp machines until the time the candles are ejected therefrom, and during all the time thereafter, do not the tip moulds and piston or drive rods remain connected?

Answer. They do remain connected during that time, and during all the time.

Question 44. Do you mean in your direct examination to state that you find described or shown in the Morgan patent of 1834, or in the Morgan & Gaskell patent of 1852, stationary candle moulds?

Answer. They are made stationary in each machine.

Question 45. Explain what you mean by the term stationary, as used in your last answer.

Answer. I mean the moulds are made fast in a frame or stand, secured sufficiently tight, that the pistons or drive-rods can push the candles out of the candle moulds.

Question 46. Then you do not mean that the candle moulds in these machines are stationary, otherwise than being held tight, for the rammers to push the candles out of the candle moulds, do you?

Answer. There would be no necessity for their being stationary otherwise.

103 Question 47. According to the organization and operation of the Stainthorp and Humiston machines, is it not necessary that the candle moulds should remain stationary at all times?

Objected to by defendant's counsel, on the ground that the organization and the stationary mould referred to in the question are no part of, and have no relation to, the subject-matter of plaintiff's patent in suit; and further, as wholly irrelevant and immaterial for any of the purposes of this suit.

Answer. In my opinion they should.

Question 48. Do you find in the Humiston machine, as testified to by you on your direct examination, stationary candle moulds placed in a vertical position, having combined with them pistons or drive-rods, having upon their upper ends tip moulds to secure and hold tips of candles?

Answer. I find stationary candle moulds and drive-rods with tip moulds connected.

Question 49. Where are these tip moulds connected to the drive-rods?

Answer. At their upper ends, at the upper ends of the drive-rods, I mean.

Question 50. Does not the Stainthorp patent, about which you have testified on this examination, also show in the organization and operation of his candle machine that he uses stationary candle moulds placed in a vertical position in combination with pistons or drive-rods having at their upper ends tip moulds to secure and hold the candles?

Objected to by defendant's counsel, on the ground that the subject-matter called for by this question was not inquired about of the witness on his direct examination, and the question is therefore no part of the legitimate cross-examination of the witness.

Answer. He does use stationary candle moulds having drive-rods with tip moulds in their upper ends.

Question 51. In what respect, then, if any, does the combination between the stationary candle moulds and drive-rods, having at their upper ends tip moulds to receive and hold the candles, in the Humiston machine, differ from the combination of the stationary candle moulds and pistons or drive-rods having at their upper ends tip moulds to receive and hold the candle found in the Stainthorp machine?

Objected to by defendant's counsel, for the reasons last above given; and further, that the question assumes that the Hu-
104 miston machine contains drive-rods having at their upper ends tip moulds to receive and hold the candles, which is an assumption expressly denied in the Humiston patent of July 24, 1855, and reissued January 22, 1861, in which it is expressly stated that the tip mould is connected with the drive-rod by means of an universal and sliding joint.

Complainants' counsel suggests that probably the witness is familiar with the Humiston patent, and that no suggestion as to its contents or supposed construction is necessary in the premises.

Defendant's counsel replies to the suggestion, and states that his reference to the Humiston patent was absolutely necessary to complete his objection to the assumptions in the question by complainants' counsel in reference to the Humiston machine, and for the truthfulness of the objection defendant's counsel refers, not only to the Humiston machine, but to his said patent.

Answer. There is no difference in the combination between the two as regards the tip moulds for the purpose of holding the candles.

Question 52. Then you regard the combination of the stationary candle and the drive-rods or pistons having at their upper ends tip moulds to receive and hold the candles substantially the same in both the Stainthorp and Humiston machines, do you not?

Defendant's counsel avers the same objections as to the question above.

Answer. I do, as applied to that particular purpose of securing and holding the candles.

Question 53. Do not the drive-rods or pistons having at their upper ends tip moulds, in both the Stainthorp patent and Humiston machine, throw out the candles from the stationary candle moulds in a vertical direction into a receptacle prepared to receive them?

Defendant's counsel avers the same objection as to the last ques-

tion, and the further objection that the throwing out of candles in a vertical direction, in the manner stated in the question, is no part of plaintiffs' patent in suit.

Answer. They do so throw them out.

Adjourned to 9½ o'clock to-morrow morning.

105 WEDNESDAY, Dec. 2d—9½ o'clock a. m.

Examination continued at Mr. Norton's office in Troy, in presence of the aforesaid counsel of both parties.

Question 54. Do you mean to state that a machine constructed and operated according to the Stainthorp patent will not make candles?

Answer. I think it will make candles.

Question 55. Do you mean to state that a machine made and operated like exhibit (J) will not make candles and throw them out vertically into a receptacle to receive the candles?

Answer. I mean to be understood that that machine will make candles and throw them out of the moulds in a vertical direction into a receptacle.

Question 56. When and where did you see a candle machine in use, having on it a receptacle to receive and hold the candles, like the receptacle for that purpose on exhibit (R)?

Objected to on the ground that the witness, on his direct examination, was not examined as to whether he had seen in use racks and tip bars like those on defendant's exhibit (R.)

Answer. I never saw one anywhere in use like that on exhibit (R.)

Question 57. When and where did you see in use on a candle machine a device or receptacle for receiving and holding candles constructed like the device for that purpose on defendant's exhibit (K)?

Objected to by defendant's counsel for the same reasons as last above, and for the further reason as wholly immaterial.

Answer. I never saw one constructed exactly like that, except on this exhibit (K.)

Question 58. Do you profess to be an expert in the manufacture of candles?

Answer. I do not profess to be an expert in the manufacture of candles.

The said witness, on his redirect examination by defendant's counsel, further testifies and says:

Question 59. In your answer to question 22 of your cross-examination you state that the position of the candle moulds of the Morgan machine of 1834, and of the Morgan and Gaskell machine of 1852, is horizontal. Please state whether or not the Humiston machine could not be used in that position, and for the same purpose, and with the same result.

Objected to by plaintiffs' counsel.

106 Answer. The Humiston machine could be used in a horizontal position with the same results as the Morgan machine and the Morgan and Gaskell machine.

Question 60. Remove from the Humiston machine the clamps which receive the candle after being ejected from the candle moulds,

and then fill the moulds with tallow, which, when cold, you then turn the Humiston machine from a vertical to a horizontal position. Please state the difference, if any, between the Humiston machine in that position, and the morgan machine of 1834, and the Morgan and Gaskell machine of 1852, in the same position.

Objected to by complainant's counsel as assuming, leading, indefinite, uncertain, and irrelevant.

Answer. In my judgment there would be no difference.

Question 61. In your answer to question No. 24 you state that the combination referred to in that question exists in the several exhibits, with the exception of the detaching of the rammers from the tip moulds in the Morgan and Gaskell machine. Do you mean by that, that the combination of stationary candle moulds with the tip mould for forming the tip of the candle, and independent of the drive-rod or rammers, is the same, and always remains the same combination as the Humiston machine, in the Morgan machine, in the Morgan and Gaskell machine, and in the Stainthorp machine.

Objected to by complainant's counsel as leading, assuming, and indefinite, and because the question indirectly assumes things to be stated in the answer to the 24th interrogatory which are not stated, and also assumes that the candle moulds in the Morgan machine, and in the Morgan and Gaskell machine, are stationary, which is contrary to the evidence in the case.

Answer. I mean to be understood that each of the several machines have tip moulds for forming the tips of the candles, and would be the same if detached from the rammers or drive-rods in each case. The combination of tip moulds, candle-tip moulds, with stationary candle moulds, would be the same in each machine.

Question 62. In your answer to question No. 25 you state that the moulds, when in combination with the drive-rods in the Morgan and Morgan and Gaskell machines, the combination is full. Please state what you mean by a full combination, and what devices you refer to in forming such combination?

Objected to by complainant's counsel, as the witness has already answered fully as to the point inquired about during this examination.

107 Answer. I mean the stationary candle moulds, with their tip moulds and their rammers or drive-rods, when brought in connexion for the purpose of ejecting the candles from the moulds.

Question 63. In your answer to question No. 26 you speak of a partial combination in the Morgan machine and in the Morgan and Gaskell machine; what do you mean by such combination, and in what part of the machine is it to be found, and how is it made.

Objected to as already answered by the witness.

Answer. The tip moulds are formed at their lower end with a flange forming a catch; the upper end of the rammer is formed to receive the lower end of the tip moulds with a spring catch for the purpose of uniting the two together, thereby forming the combination.

Question 64. State whether or not the combination referred to in your last answer is the partial combination referred to on your cross-examination.

Objected to, first, as leading; and second, because the witness has already defined what he meant by the use of the term partial combination, as used by him on this cross-examination.

Answer. That is the point I had reference to, and is the partial combination that I referred to.

Question 65. On your cross-examination you testified that in the Morgan machine and in the Morgan and Gaskell machine you find the combination of the lower end of the candle-tip mould with the upper end of the rammers or dive-rods. Please state whether or not you find such devices in the same combination and for the same purpose in the Humiston machine.

Objected to by complainants' counsel, as assuming, leading, suggestive, and because the witness has already stated as to the combination referred to, and because the question assumes that the witness has testified to what he has not.

Answer. I find the devices in both the machines, making the combination the same in both machines, and for the same purpose in the Humiston machine, and in the Morgan and the Morgan and Gaskell machine.

Question 66. In your answer to question 31 you say that you "find in the Humiston machine a flexible joint connecting the drive-rod with the tip mould." Please state whether or not you find such a joint connecting such device in the Stainthorp machine?

Answer. I do not find such device in the Stainthorp machine, nor such flexible joint.

108 Question 67. State whether or not you find in the Morgan machine of 1834, and the Morgan and Gaskell machine of 1852, the devices and a flexible joint, substantially like that referred to in your last answer.

Answer. I do find in the Morgan and in the Morgan and Gaskell machines the same devices and a flexible joint that I find in the Humiston machine.

Question 68. In your answer to question 32 you state that the tip moulds and the drive-rods or rammers in the Humiston machine are not designed to be separated. Do you mean to be understood that they are not separated during any part of the operation of that machine in making candles?

Answer. I did not mean that they were not separated at all during any of the process of making the candles.

Question 69. Please state whether or not the separation spoken of on your cross-examination, of tip moulds from the drive-rods or rammers in the Morgan machine of 1834, and the Morgan and Gaskell machine of 1852, during the process of making candles, is a permanent or only a temporary separation.

Objected to, because the witness has already fully stated during what portion of the operation of making candles in the machine referred to the tip moulds and rammers remain connected.

Answer. It is a temporary disconnexion.

Question 70. Please state the object of this temporary disconnexion referred to in the last answer.

Answer. It is for the purpose of removing the moulds to the place of filling with tallow, and back again to the rammers.

Question 71. During the operation referred to in the last answer, please state whether or not the stationary candle moulds are still unchanged, and in the same combination each with each.

Objected to by complainants' counsel, because the question assumes the candle moulds being removed from the rammers to the reservoir to be refilled to be stationary candle moulds, whereas the moulds referred to clearly appear to be movable from the place of filling to the place of ejecting the candles from the moulds, and back again, and also because the moulds referred to are turned in a horizontal position, in order to have the candles punched out by the rammers, and also because the question is indefinite as to what combination is meant, and also as to what is meant by the term "unchanged" used in that question.

109 Defendant's counsel replies to the statement made by complainants' counsel, and refers to the proofs in the case, for the contrary, in reference to the question.

On reading over above question 71 to the witness, defendant's counsel says he added the words "candle-tip moulds," which was omitted in the record thereof, making the question as repeated now read as follows:

"During the operation referred to in the last answer, please state whether or not the stationary candle moulds and candle-tip moulds are still unchanged, and in the same combination each with each."

Answer. As I understand it, the combination is the same, and their relation each to each is the same.

Question 72. In your answers to questions 34 and 35, you speak of different sets of candle moulds to be used in the manufacture of candles in Morgan and Morgan and Gaskell machines. Please state what you mean by set of candle moulds, in reference to those machines.

Answer. I mean a number of moulds corresponding with the number of rammers or drive-rods, that number making one set. They could not use but one set at a time with the rammers.

Question 73. Please state whether or not these candle moulds to which you refer as making different sets are stationary in reference to themselves so arranged, and also in reference to the candle-tip moulds during the operation of moulding the candles, and with the rammers during the operation of ejecting the candles from the candle moulds.

Objected to as leading and obscure, and intended to mislead the witness.

Answer. As I understand it, it is strictly necessary to have the moulds stationary, corresponding exactly with each other, and with their tip moulds combined before they are brought in connexion with the rammers to eject the candles.

Question 74. You mean to be understood, then, do you not, that these candle moulds are stationary and in a vertical direction during the operation of moulding the candles, and stationary with cor-

responding parts during all the operations of the machine? I mean the moulding of the candles and their ejection from the moulds in which they are made, and that the said candle moulds are only in a horizontal position during the operation of the ejection of the candles, as you have stated.

Objected to as leading, assuming, and ambiguous, and designed to mislead.

110 Defendant's counsel says that he denies any attempt to mislead the witness as counsel, and states that every part of the subject-matter inquired about in this question was inquired of the witness upon his cross-examination.

Answer. As I understand the machine, the candles are moulded with the moulds perpendicular, in combination with their tip moulds; when removed to their rammers or drive-rods they are brought to a horizontal position preparatory to their ejection from the moulds, and they remain stationary under all these operations of the machine.

Recess to 2 p. m.

At 2 p. m. examination continued:

Question 75. In answer to question 39 you state that the manufacture of the Morgan and Gaskell machines would be cheaper than the manufacture of a machine made like Humiston's. In what respect did you have reference in this statement?

Answer. In reference to the number of pistons or drive-rods, in their first cost.

Question 76. Do you mean to be understood that there are a less number of pistons or rammers in the Morgan or Morgan and Gaskell machine than in the Humiston machine of the same capacity, or of the same number of candle moulds, or do you mean to be understood that in the first two named machines one set of rammers or drive-rods will answer for several sets of stationary candle moulds of equal number with the drive-rods?

Objected to as being leading, and obscure and assuming.

Answer. I mean to be understood that in the Morgan and Morgan and Gaskell machine it requires the same number of rammers or drive-rods that the Humiston machine requires of the same capacity; but a number of different sets of moulds can be used with the same number of rammers or drive-rods as the Morgan and Gaskell machine.

Question 77. In your answer to question 40 you state that the pistons and the tip moulds in the Humiston and Stainthorp machine are connected. What did you mean by that answer?

Answer. I meant that they are not designed to be separated, as they are in the Gaskell and Morgan machine.

Question 78. Do you regard the combination of the candle-tip mould with the drive-rod in the Humiston machine the same device in construction and principle as the piston in the Stainthorp machine?

Objected to.

111 Answer. I do not consider it the same device in construction or operation as that found in the Stainthorp machine.

Question 79. In your answer to question 41, you state that in the

Humiston and Stainthorp machine the candle-tip moulds remain connected with the drive-rods or rammers during the operation of moulding the candle and ejecting the same from the moulds. Is not this also true in relation to the candle-tip moulds in the Morgan and Morgan and Gaskell machine during all of the time of the ejection of the candles from the candle moulds, and the replacing of the tip moulds for the remoulding of the next set of candles?

Objected to as not correctly referring or quoting answer 41.

Answer. The pistons or rammers do remain connected to the tip mould in the Morgan and Morgan and Gaskell machine during the operation of ejecting the candles and returning the tip moulds to their former position, the same as in the Humiston and Stainthorp machines.

Question 80. Do you mean to be understood that in this respect the four machines, Morgan, Morgan and Gaskell, Humiston, and Stainthorp, are alike in principle, and they attain the same result substantially?

Objected to.

Answer. That is what I meant to be understood.

Question 81. In the Morgan and in the Morgan and Gaskell machines, state whether or not you regard it as absolutely necessary that the candle moulds should be stationary permanently, so in relation to each other, and in relation to the candle-tip mould, during the operation of moulding candles, and also in relation to the rammers, during the operation of ejecting candles from the moulds.

Objected to, because it is immaterial what the witness regards as absolutely necessary in the machines referred to, the question being what the patents show or describe.

Question 82. The above question repeated, leaving out the following words, "Do you regard."

Objection renewed.

Answer. It is absolutely necessary that they should so remain stationary.

Question 83. State whether or not you find in the Morgan and Morgan and Gaskell machine or patents, and in the Humiston machine, and also in the Stainthorp machine, stationary candle moulds.

Objected to, because the witness has heretofore been several times fully interrogated, and has fully answered in reference to the matter inquired about.

112

Answer. I do find stationary candle moulds in all these machines.

Question 84. Have you seen, and are you acquainted with, and if so, when, a machine for making candles known as the hand-stand or moulds?

Objected to as new matter here first introduced in the examination, and as being irrelevant and immaterial to the issue in this case.

Answer. I have seen the hand machine and have built them. It was some twelve years ago that I saw them and made them.

Question 85. State whether or not such machines which you say you have seen and built contained therein stationary candle-moulds, arranged in a vertical position.

Same objection as last above, and also that if it is intended to prove by this witness that the existence of the candle mould or machine, prior to the invention of Stainthorp, notice thereof should have been given in the case, and not have been here first introduced.

Answer. They did contain stationary candle moulds in a vertical position.

Question 86. In your answer to question 49 you say that the tip moulds in the Humiston machine are connected with the upper end of the drive-rod. Do you find such tip moulds so connected in the Stainthorp machine in suit?

Objected to, as it does not appear yet that there is any particular Stainthorp machine in suit.

Answer. I do not find them so connected in the Stainthorp machine.

Question 87. Do you find in the Stainthorp machine any tip mould whatever separate from the drive-rod by joint or otherwise?

Objected to.

Answer. I do not find any such tip mould that is separate from the drive-rod.

Question 88. Then, in your answer to question 51, you meant to be understood, did you not, that there was no difference in the Humiston and Stainthorp machines, as regards that part of the tip moulds which forms the tips of the candles? and state whether in this respect there is any difference between the two machines and the Morgan, and the Morgan and Gaskell machine, with reference to forming the tip of the candle.

113 Objected to by complainants' counsel, because it clearly appears, in the answer of the witness referred to, and in his other answers connected therewith, what the witness meant.

Answer. I meant to be understood that the two machines of Humistion and Stainthorp were alike in that particular respect of forming the tips of the candles, and find the same in the Morgan and Morgan and Gaskell machines.

Question 89. In your answer to question 53 you state that in the Stainthorp and Humiston machines the candles are thrown out from the candle moulds in a vertical direction, and into a receptacle prepared to receive them. State whether or not the means used for ejecting the candles vertically, and the manner used to receive the candles after being thus ejected, are the same means in the Humiston and Stainthorp machines, having reference in your answer to defendant's exhibits (K) and (Q), both certified models, and exhibits (MM) and (NN.)

Objected to by complainants' counsel.

Answer. They are not the same in any case. I mean, that they are not the same means used to push the candles out of the moulds, or to receive them when pushed out.

Question 90. In your answer to question 54 you state that the Stainthorp machine will make candles. Do you mean to be understood in that answer that a machine constructed like Stainthorp's

machine, described in his patent, and represented by defendant's exhibit (K), would in your judgment make good, perfect, and marketable candles in large quantities?

Objected to by complainants' counsel, because the question incorrectly assumes what is asked of the witness in the 54th interrogatory, and what is answered by him thereto, the question referred to being whether a machine constructed and operated according to the Stainthorp patent will make candles, and because this question improperly connects exhibit (K) with the Stainthorp patent, without having shown that this model is made in exact accordance with that patent.

Answer. I do not think that it would make marketable candles in large quantities.

Question 91. State whether or not, in your judgment, a machine constructed like the Morgan and the Morgan and Gaskell machine, in relation to the stationary moulds, candle-tip moulds, and the drive-rods or rammers, if placed in a vertical position, with clamps
114 like those upon the Humiston machine, candles could be made in the same manner, and by means for moulding and ejecting the candle substantially the same as the Humiston machine.

Objected to by complainants' counsel as assuming, in relation to stationary candle moulds, and also because the question is obscure, indefinite, and absurd.

Answer. I think the Morgan or Morgan and Gaskell machine, placed in a vertical position, with stationary moulds and tip moulds, with Humiston's clamps, could make candles with equal facility to the Humiston machine. The means employed with the pistons or rammers, for ejecting the candles by means of a rack and pinion for moving the rammers, are the means employed.

Re-cross-examination.

Question 92. Do you mean to state, on this examination, that the Morgan patent of 1834, or the Morgan and Gaskell patent of 1852, shows or describes any mode or means of forcing the candles out of the moulds, otherwise than by laying the moulds containing the candles in a horizontal position in front of the rammers, and then pushing out the candles from the moulds in a horizontal direction?

Answer. That is the mode used. The means are by the use of the tip mould in connexion with the rammers.

Question 93. And this connexion of the tip moulds with the rammers only, continues during the time the candles are being pushed out of the moulds and the tip moulds are being brought back, does it?

Objected to by defendant's counsel, on the ground that the counsel has asked the same question on the cross-examination at question No. 29; 2d, that the continued repetition by counsel of such questions is designed to occupy the stipulated time for defendant to close his testimony.

Complainants' counsel denies any such design, but states that his design is to find out how the witness can convert the Morgan machine into a Humiston machine.

Answer. That is all the time that they are connected.

Question 94. What would you do to turn a machine like the one described in the Morgan patent of 1834, or in the Morgan and Gaskell patent of 1852, into a machine like the Humiston machine?

Answer. I would place the Morgan and Gaskell machine in a vertical position, secure the frame that holds the rammers and the frame that holds the moulds together, and force the candles from the moulds by the means of the device used for that purpose in the Morgan and Morgan and Gaskell machines.

115 Question 95. Is that all you would do?

Answer. That is all I should do in the present case?

Question 96. Would you not make a permanent connexion between the tip moulds and the rammers in the Morgan machine?

Answer. I should not.

Question 97. Have you not already stated there is a permanent connexion between the tip moulds and the drive-rods in the Humiston machines?

Answer. I don't know that I have made any such statement.

Question 98. Do you mean to state that the tip moulds in the Humiston machines is at any time disconnected from the drive-rods with which they are connected?

Answer. There is a loose joint on the tip moulds and drive rods in the Humiston machine, which allows the end of the drive-rod and the end of the tip mould to separate about one-eighth of an inch.

Question 99. Question repeated.

Answer. They are disconnected by about one-eighth of an inch.

Question 100. Do you mean by the term disconnected, as used by you in reference to the tip moulds and drive-rods in the Humiston machines, such a disconnexion between the two as shown by the loose joint on defendant's exhibit (M)?

Answer. That is the kind of disconnexion I mean.

Question 101. Have you ever seen any other kind of disconnexion between the drive-rods and tip moulds in a machine built by Mr. Humiston wherein the tip moulds and drive-rods are used?

Answer. Not that I have any recollection of.

Question 102. Do you mean to state that the connexion between the tip mould and the drive-rod on defendant's exhibit (M) is not permanent?

Answer. It is not permanently fixed together.

Question 103. Is the tip mould and the drive-rod intended to be separated in the Humiston machine?

Answer. The end of the tip mould and the end of the drive-rods are separated one from another by a short distance of about one-eighth of an inch.

Question 104. Is this the only difference which you discover between the pistons or drive-rods in the Stainthorp machine, and the pistons or drive-rods in the Humiston machines?

Answer. That is the main feature between the two.

116 Question 105. Specify any other difference, if any, between the pistons or drive-rods and tip moulds in the Humiston machines, and the pistons or drive-rods and the tip moulds in the Stainthorp machine, as patented.

Objected to by defendant's counsel, on the ground that plaintiffs' patent does not show or describe any drive-rods and tip moulds, nor are any shown in the model or drawings upon which plaintiffs' patent in suit was granted, and, second, for the reason that such device is the invention of the defendant, patented to him on the 22d day of January, 1861, in that combination, by reissue of defendant's patent, dated July 24, 1855; and, third, that the last clause of such question is the assumption of fact that does not exist in the Stainthorp machine or patent.

Answer. The difference, as I understand it, consists in the drive-rod of the Stainthorp machine constitutes the tip mould in its upper end, permanently affixed thereto; while in the Humiston machine the tip mould and drive-rod are two distinct pieces, mechanically connected by a universal joint.

Question 106. Is this all the difference between the two?

Answer. That is all the difference that I can see.

Question 107. In your last answer but one, you state that the drive-rod and tip mould in the Humiston machine are mechanically connected. State during what time they remain mechanically connected.

Objected to by defendant's counsel, for the reason that the witness has been inquired of on that subject by plaintiffs' counsel, on his cross-examination, at question No. 43, and that such continued repetition of questions are wilful on the part of plaintiffs' counsel, and designed to occupy unnecessary time, from the fact that defendant's counsel directs the attention of plaintiffs' counsel to such former question.

Complainants' counsel disclaims any improper motive in putting this question to the witness.

Answer. They will be mechanically connected until worn out by use, or purposely separated.

Question 108. How would you use the Humiston machine in a horizontal position, and did you ever try to so use it?

Answer. I should place the machine in a vertical position in the first place; then I would fill the moulds with melted tallow. When it became cool, or hard enough to draw, I would lay the machine down in a horizontal position; I would fasten the clamps upon
117 its then side, the top having become the side; then with my rack and pinion and crank I would force the candles into the clamps from the moulds, and then close the clamps, cut off my wicks, disengage my clamps, and carry away my candles in the clamps, and open my clamps and let the candles out upon a table. I mean this for filling and drawing one set of candles only. If I were manufacturing candles, after forcing out the first set I should then return my machine to a vertical position, fill it with melted tallow, again scrape off my surplus tallow from the top of the machine, cut off my wicks and remove my candles as previously stated, return my clamps to the machine, secure them fast as previously stated, bring my machine to a horizontal position again, and go through the same operation as before stated, and thus continued the operation. I never have manufactured or seen candles manufactured by these machines in that way.

Question 109. Would you consider this way of manufacturing candles a practicable or convenient way of doing it?

Objected to as wholly immaterial for any of the purposes of this suit.

Answer. I should not with those machines. I mean the Humiston machine.

Question 110. In your redirect examination do you mean to state, or to be understood as stating, anything differently or otherwise in relation to the combination of the tip moulds with the rammers in the Morgan machine, or in the Morgan and Gaskell machine, or in the patents to Morgan and Morgan and Gaskell, or in relation to the candle moulds in those machines or either of them being stationary, or in relation to the combination of the tip moulds and drive-rods in the Humiston machine, than what you have already stated in your cross-examination in this case?

Objected to by defendant's counsel, on the ground that the question is unfair; 2d, that it is an insult to the witness to offer such a question, asking him thereby to retract all that he has said on this examination, excepting such as he may have said on his cross-examination; and 3d, that it is a mere trick in its design to do away with the direct and redirect examination of this witness.

Plaintiffs' counsel disclaims any intention to insult the witness by his question, and that he has no improper design in putting the question, but merely desires the witness to state his meaning, which complainants' counsel supposes to be such as he has already ex-
118 pressed on the cross-examination, in relation to the several points inquired about in this question.

Answer. I don't know how to answer this question in any other way than I have already, and I refer to my whole examination.

Question 111. Have you not, since the adjournment of your cross-examination last night, had conversation with the defendant or his counsel in reference to the matters, or some of them, testified to by you in your cross-examination, and have you had such conversation with the defendant's counsel or the defendant, or with both of them?

Answer. I have had such conversation with the defendant's counsel and with the defendant, consisting of a general character of the different machines.

Question 112. Describe what device for making candles you refer to in your answer to the 84th interrogatory?

Answer. It consists of a wooden frame from 18 to 20 inches long, and from seven to eight inches wide, and somewhere from 12 to 15 inches high, having candle moulds with their tip moulds permanently soldered fast to the candle moulds at the bottom end of the moulds; the moulds are then screwed in to the bed-plate of the machine, the lower ends of the moulds supported by a cross-piece at the lower ends of the moulds, the wicks are drawn in by a small hooked wire through the tip mould to the top of the candle mould; being drawn in double, they form a loop at their upper end, through which a wire is passed from one end of the machine to the other; the wicks are then carefully centred in the centre of the moulds, and melted tallow

is poured in until the moulds are full; the stand is then left to cool; when sufficiently cool, the surplus tallow is scraped off, the wires are withdrawn; the candles are then popped, (a term used by candle-makers,) the candle mould is then carried to a table or bench, laid down in a horizontal position; the candles are then drawn out of the moulds with an awl. It was called the hand machine. These candle moulds were vertically stationary in the frame. I have not made any of these machines for the last ten or twelve years. They are not now much used that I know of. I mean by popping the candles, starting them down with the thumb.

Question 113. Do you know whether any of these hand-mould machines are now in use?

Answer. I don't know of any in use.

Re-redirect examination.

Question 114. In your answer to question 107, you state
119 that the tip mould and drive-rod in the Humiston machine, mechanically connected by a flexible joint, would thus remain connected until worn out or purposely disconnected. State whether or not such would be the case in the Morgan and Morgan and Gaskell machines.

Question objected to, because the question does not correctly state what was said by the witness, as appears from the examiner's minutes.

Answer. It would be the same in the Morgan and Morgan and Gaskell machine.

Question 115. In answer to question 111, you state that you have had conversation with defendant and his counsel relating generally to the character of the machines in this suit. State whether or not, during such consultations, or any other consultations you may have had with defendant or his counsel in relation to this suit, you were instructed by them or either of them as to how you should testify on your direct, cross, redirect, re-cross, or any other examination in this suit, or whether or not either of them requested you to testify to anything but facts and truth in this case.

Answer. They never have, either of them, directed me what I should testify to in this suit.

CYRUS A. SHERWOOD.

Subscribed and sworn to before me, this 2d day of Dec., 1863.
A. A. BOYCE, *U. S. Examiner.*

ANSON ATWOOD, a witness produced by and on behalf of the defendant, being duly sworn, testifies and says:

Question 1. What is your name, age, residence, occupation, and how long have you resided there?

Answer. My name is Anson Atwood; my age is 53; my occupation is that of a machinist, and I keep a foundry here in the city of Troy, where I have resided for the last 30 years.

Question 2. Have you, during your residence in Troy, made several valuable inventions for which you have obtained patents?

Answer. I have.

Question 3. Are you familiar with different kinds of machinery, and have you, during your residence here, been somewhat extensively engaged in the practical construction of machinery and different inventions or improvements?

Answer. I have.

120 Question 4. Have you, during that time, had the opportunity of becoming somewhat familiar with patents upon and specifications of various inventions?

Answer. I have.

Question 5. Have you carefully examined the defendant's candle machine, marked defendant's exhibit (H) in this suit; and if so, do you understand the same, and especially that part relating to the moulding of candles, and their ejection from the candle moulds?

Answer. I have examined exhibit (H,) and more particularly that part referred to in the question, and I think I understand that part of it.

Question 6. Did you, on the same occasion, also examine a candle machine marked as the Stainthorp candle machine, and marked in this suit as defendant's exhibit (J,) and especially that part relating to the moulding of the candle and ejecting the same from the mould; and if so, do you understand the same?

Objected to by plaintiffs' counsel, as exhibit (J,) referred to, has not been shown to be a machine made by complainants, or under their direction, nor is said machine shown to have been made under or according to the Stainthorp patent.

Answer. I did, and think I understand its construction; that is, the part referred to in the question.

Defendant's counsel here offers in evidence a certified copy of plaintiffs' patent, dated March 6, 1855, on which this suit is brought, consisting of specifications, claims, and drawings, with certificates thereto, bearing date the 22d day of July, 1862, and which is here marked by the examiner defendant's exhibit (U.)

Complainants' counsel says that the copy of the specification and claim referred to as exhibit (U) is printed, and is somewhat interlined and marked with ink, and he cannot therefore determine whether it is a correct copy of the patent or not, and he therefore objects to the same, and refers to the Stainthorp patent in evidence in the case as showing what was patented by Stainthorp.

Question 7. Have you carefully read the printed specification and examined the drawings of a certified copy of plaintiffs' patent in suit; and if so, do you understand the same, and especially that part having reference to the first claim thereof?

Answer. I have examined it carefully, and I think I understand the parts referred to in the first claim thereof.

Question 8. After such careful examination of such ma-

121 chines, and of plaintiffs' said patent, please state whether or not you find in the Humiston candle machine pistons formed at their upper ends into moulds for the tips of the candles in combination with stationary candle moulds like those—I mean the pistons and moulds shown in plaintiffs' drawings, and described in this said specification, and said claim of said patent?

Objected to by plaintiffs' counsel.

Answer. The word piston I will use as described in the Stainthorp specification. It is not properly a piston, as I understand the term in mechanics. I see from the description that (DD) is represented as the piston, when it is only a rod. They call it a piston, when I only call it a rod. A piston, as I understand it, fills the whole cavity of a cylinder of a pump or engine. I do not find such a piston as described in Stainthorp's specification and drawings. On Humiston's machines the tip, which is marked (EE) in the Stainthorp patent, is formed upon the upper end of this piston rod, and the difference is that the tip mou'ds in the Humiston machine is separate from the piston rod or driving-rod.

Question 9. Having stated in your last answer that you do not find in the Humiston mschine the device known and called in the Stainthorp patent as piston (D,) state whether or not you find the combination referred to in the description and first claim of plaintiffs' patent in suit.

Objected to by plaintiffs' counsel.

Answer. I do not find the same combination.

The witness, being cross-examined by plaintiffs' counsel, testified as follows:

Question 10. Do you find in the Humiston machine stationary candle moulds having in them pistons or drive-rods, at the upper ends of which are moulds for receiving and holding the tips of candles?

Answer. In that rod called the piston I do not find the mould for the tip of the candle.

Question 11. Do you find stationary candle moulds in the Humiston machine for moulding candles?

Answer. I do.

Question 12. Do you find drive-rods or pistons inserted in each of these stationary moulds in the Humister machines?

Answer. I find drive-rods, but I don't find pistons. I find there is a drive-rod for driving the candle out of the stationary mould. I find a drive-rod for driving out the candle-tip mould.

Question 13. Where does the drive-rod drive the tip to in the Humiston machine?

122 Answer. It drives it up through the stationary candle mould when required.

Question 14. When is it required to drive the tip mould up through the stationary candle mould, and to what part of the drive-rod is the tip mould attached, in the Humiston machine?

Answer. When you want to lift the candles out of the moulds, the tip mould is at the upper end of the drive-rod.

Question 15. Where does the tip of the candle rest, and where is the tip of the candle formed, in the Humiston machine?

Answer. It is formed in the tip mould, and rests therein.

Question 16. Do not the devices called drive-rods and tip moulds, in the Humiston machine, occupy substantially the same space and the same position in the stationary candle moulds of that machine as are occupied by what are called pistons and tip moulds in the stationary candle moulds in the Stainthorp patent?

The last question objected to by defendant's counsel, on the ground, first, that the question does not relate to any subject-matter of plaintiffs' patent; and, second, as wholly immaterial for any of the purposes of this suit.

Answer. They occupy the same place in the stationary moulds when the tip moulds are at rest at the lower end of the candle mould; but when the candle is driven out, the tip mould in the Humiston machine will oscillate, and conform to the position of the candle. In the Stainthorp machine the tip mould remains stationary to the piston-rod. That is all the difference.

Question 17. Then, when you speak in your direct examination of a difference between the devices for moulding the candles and throwing them out of the moulds in the Humiston machine, and the devices for the same purpose in the Stainthorp machine, you only mean, do you, that in the Humiston machine the drive-rod is flexible towards its upper end, and in the Stainthorp machine the drive-rod is not flexible?

Answer. I don't mean to be understood to have said that the drive-rod is flexible at all. What I meant to say as being flexible in the Humiston machine was the tip mould at the upper end of the rod. In the Humiston machine was flexible, and in the Stainthorp machine it is stationary.

Question 18. Is this all the difference between the Humiston drive-rods and tip moulds and the Stainthorp drive-rods and tip moulds?

123 Objected to by defendant's counsel, on the ground that nowhere in the Stainthorp patent are drive-rods and tip moulds described or to be found; and, second, that, on the other hand the Stainthorp patent in suit expressly describes the candle-tip moulds as being in the upper end of pistons.

Complainants' counsel suggests that the name of the thing is not so material as the thing itself.

Defendant's counsel replies that the materiality of the thing is for the court to pass upon, and not for plaintiffs' counsel.

Answer. That is all the difference.

Question 19. Does not the tip mould and the drive-rod in the Humiston machine remain permanently connected at all times?

Answer. It is permanently connected, but not stationary, as I have before stated. The tip mould has an oscillating motion.

Question 20. Then in your direct examination, when you stated that you do not find in the Humiston machine such a piston as described in Stainthorp's specification, do you mean to be understood that the piston or drive-rod in the Humiston machine differs from the piston or drive-rod described in the Stainthorp patent otherwise than that the Humiston tip mould has an oscillating motion?

Answer. The tip mould in the Humiston machine is not formed on the end of the piston rod, as in the Stainthorp machine. If it had been, there could be no oscillating joint. That makes the difference. It has to be separate, and this is the difference I refer to.

Adjourned to 9 o'clock to-morrow.

THURSDAY, Dec. 3d—9 o'clock a. m.

Examination resumed at M. P. Norton's office in Troy, in presence of aforesaid counsel.

The said Anson Atwood, on his further cross-examination, testifies as follows:

Question 21. What combination of devices do you refer to in your answer to the 9th direct interrogatory, when speaking in reference to the Stainthorp's patent?

Answer. I refer to the piston or pistons so called, formed at their upper end into moulds for the tips of the candles, in combination with stationary candle moulds, to throw out the candles in a vertical direction.

Question 22. In what direction are the candles thrown out of the stationary moulds in the Humiston machine?

124 Objected to, on the ground, first, as wholly immaterial; and second, that the direction in which the candles are ejected from the moulds is not part of plaintiffs' patent in suit; and third, the direction in which candles are ejected from the mould in plaintiffs' machine does not constitute the subject-matter patentable.

Answer. In a vertical direction upwards.

Question 23. By what means are the candles thrown out of the stationary moulds in the Humiston machine?

Answer. By means of the rack and pinion ramming the drive-rod against the tip moulds and raising them up vertically in the stationary candle moulds.

Question 24. Where are the tip moulds located with reference to the drive-rods in the Humiston machine?

Answer. At the upper end of the drive-rods and in the lower end of the stationary candle mould, when the machine is at rest.

Question 25. Are not the tip moulds located at the upper ends of the piston so called in the Stainthorp patent?

Answer. They are.

Question 26. Do not the tip moulds and the drive-rods or pistons in each of these machines remain connected at all times?

Objected to by defendant's counsel, on the ground that nowhere in the plaintiffs' patent, either in the drawings or specifications, are tip moulds and drive-rods or pistons shown or described; and second, neither is it shown in the drawings or specifications of plaintiffs' patent or in his patented model in suit, candle-tip moulds separate or in any manner disconnected from the piston; and third, the plaintiffs patent, both in the specification and drawings and first claim thereof, expressly show, describe, and declare the candle-tip moulds to be in the upper end of the piston.

Answer. They do remain connected at all times. In the Stainthorp machine it is a permanent connexion. In the Humiston machine they are connected by a flexible joint with the drive-rod.

Question 27. Is this all the difference you find relative to the subject-matter inquired of in the last question?

Answer. It is all the difference.

Question 28. Is this supposed difference, mentioned in your last answer, the reason why you state, in answer to the 9th direct interrogatory, that you do not find the same combination in the Humiston machine as you find in the Stainthorp patent?

125 Objected to by defendant's counsel, on the ground, first, that the witness did not, in his direct examination, testify to any "supposed difference" between the devices referred to; and second, because the witness did testify to a positive difference between the devices in the two machines for completing the moulds for candles, and in ejecting them therefrom.

Answer. The difference in the combination is as I have described it in my previous answers.

Question 29. Question 28 repeated.

Answer. The difference is, that in the Stainthorp machine the tip mould is made or formed in the end of what is called the piston or piston rod, called so in his patent. In the Humiston machine the tip mould is formed out of a separate piece, and connected with the drive-rod, as I should call it, by a flexible joint. This is all the apparent difference in the make of the two machines. This is the reason that I do not find the same combination in the Humiston machine that I find in the Stainthorp patent.

Question 30. Have you ever made an invention or inventions in relation to candle-making machines, or have you ever obtained a patent or patents for such invention or inventions?

Objected to as immaterial.

Answer. I never did.

Question 31. Have you ever made, sold, or used candle machines?

Objected to as wholly immaterial.

Answer. No further than in the old-fashioned tin candle-mould machine, a stationary set. I run candles in them when I was a boy. I pulled them out by hand from the moulds.

On his re-direct examination the said Atwood further testifies:

Question 32. In answer to question No. 26, you state that in the Stainthorp machine the tip mould is permanently connected with his piston or piston rods; that in the Humiston machine the candle-tip mould is connected with the drive-rod by means of a flexible joint. Please state the difference, if any, between this permanent connexion and this flexible connexion described by you.

Objected to as already fully answered, and also because the question assumes that the description inquired about has already been made by the witness.

126 Answer. In the Stainthorp machine the tip mould is made or formed, as described in his patent, in the upper end of the pistons. In the Humiston machine the tip mould is formed of a separate piece, and connected with the drive-rod or so called piston by means of what I call a flexible joint. What I mean by a flexible joint is one that can move in all directions.

Question 33. Please state whether or not this tip mould in the Humiston machine, connected by this flexible joint to the drive-rod, will permit the candle, during the operation of the ejection from the

candle moulds into the clamps above the moulds, to conform to the irregularities in the passage through the mould, and of the clamps above, during the operation of clamping the candles, after being thus ejected, without injury to or liability of breaking the candle tips.

Objected to by complainants' counsel, first, because the subject-matter referred to in this question is here first introduced on the redirect examination of the witness; second, because the question is assuming and leading; and third, because it does not appear that this witness has ever seen candles ejected from stationary candle moulds by the use of the device referred to; fourth, because it already appears, from the statement of the witness on this examination, that he has no experience in the manufacture of candles by the use of the device referred to.

Answer. It would conform to any ineqalities of the tipping of the candles in any direction while the candle is leaving the stationary moulds.

Question 34. During your cross-examination you have testified that in the Humiston machine you find a candle-tip mould connected with a drive-rod by means of a flexible joint, and that you do not find such a device in the Stainthorp patent in suit. Please state whether or not you have seen this device which you have described in the Humiston machine in any machine, or shown by drawings or specifications, or in any patent, or otherwise than in the Humiston machine.

Objected to by complainants' counsel, first, because the defendant's counsel has no right to assume and state the question that the witness has testified as he has thus stated; second, because new matter here first introduced on the redirect examination of the witness; third, because it is uncertain what particular device is referred to in the question.

Answer. I have seen such a device or a similar device in a candle mould marked as exhibit (LL) in this case. When I saw it, or
127 a similar one before to-day, it had a catch in the drive-rod to connect the drive-rod with the tip mould, forming a flexible joint between the drive-rod and tip mould.

On re-cross-examination by complainants' counsel the said Atwood further testifies:

Question 35. What device do you refer to in your last answer to the last question? Describe it.

Answer. The device I referred to was the flexible joint between the tip mould and drive-rod, and I referred to it as being the device used in the Humiston machine and in the exhibit (LL.)

Question 36. Will you please point out and state where you find any flexible joint on exhibit (LL)?

Answer. The groove around the bottom of the tip mould in exhibit (LL,) forming a catch at the bottom to receive a spring which would be in the end of the drive-rod. When the drive-rod is shoved on, it would form a connexion and be a flexible joint.

Question 37. Do you find any spring in exhibit (LL,) or either of them?

Answer. I do not.

Question 38. Did you ever see exhibit (LL) in any machine?

Answer. I never have.

Question 39. Have you ever seen them operate?

Answer. I never have.

Question 40. Have you ever seen a machine like Mr. Humiston's or like the Stainthorp machine used or operated in the manufacture of candles?

Answer. I have not to my knowledge.

On re-redirect examination witness testifies:

Question 41. Is it necessary for you to have operated practically in the manufacture of candles on the Humiston or Stainthorp machine in order to understand them, their construction, principle, and operation?

Answer. I don't think it would be.

ANSON ATWOOD.

Subscribed and sworn to before me, this 3d December, 1863.

A. A. BOYCE, *United States Examiner.*

128 Defendant's counsel here offers in evidence an original patent granted to the defendant by re-issue on the 22d day of January, 1861, and originally granted Dec. 23, 1851, upon improvements upon apparatus for moulding candles, and which is here marked as defendant's exhibit V.

Defendant's counsel states that he offers this patent to show stationary candle moulds in a vertical position in combination with candle-tip moulds and the centring of the wick in the respective stationary moulds by means of the respective candles suspended vertically above such moulds by means of an apparatus used for the purpose of receiving such candles from such vertical stationary moulds below, called clamps or pincers.

Objected to, and also the foregoing statements.

Recess to 2 p. m.

2 p. m.

Defendant's counsel now offers in evidence original letters patent granted to the defendant on the 4th day of April, 1854, upon improvements in candle-mould apparatus, for the purpose of showing vertical stationary candle moulds with candle-tip moulds in combination therewith, with candles suspended vertically above such moulds by means of a device constructed for that purpose and for the purpose of removing such candles from such moulds, and showing also the wicking of such vertical moulds at the operation of removing candles therefrom, which is done by means of wick upon a spool to each candle mould underneath the same, and showing also the suspension of candles above such moulds after being moved therefrom during the operation of filling such moulds for the next set of candles, and showing also candles in such vertical moulds before being moved therefrom, and which is here marked defendant's exhibit (W.)

To the reception in evidence of which the complainants' counsel objects; and he also objects to the foregoing statements being taken or received in evidence in this case.

Defendant's counsel now offers in evidence the original reissued letters patent, bearing date the 22d day of January, 1861, it being a reissue of a patent granted to defendant July 24, 1855, upon improvements in machines for moulding candles, which is the patent illustrating and describing the candle machine made by defendant, and show by his exhibit (H,) with the exception of the rack and pinion in that exhibit for raising and lowering the apparatus for ejecting candles from stationary candle moulds into the clamps for receiving
129 the same immediately above such moulds, which is marked by the examiner as defendant's exhibit (X,) to the reception in evidence of which the complainants' counsel objects; and he also objects to the foregoing statement being taken or used as evidence in this case.

Defendant's counsel next offers in evidence a candle-tip mould such as are found in defendant's candle machine manufactured by him and set forth in his patent of July 24, 1855, and showing the flexible joint connecting such tip mould with the drive-rod in the defendant's machine, and which is here marked by the examiner as defendant's exhibit (Y.)

The complainants' counsel objects to the last-named exhibit being used as evidence in this case, and he also objects to the foregoing statements being taken or used as evidence in this case, and he also denies that said exhibit is proved or in any way shown to be what is above stated concerning it.

Defendant's counsel next offers in evidence a drive-rod, such as is made by defendant, and used in his machines, and found in his exhibit (H.) which is here marked by examiner as defendant's exhibit (Z.)

Same objection by complainants' counsel as last above. Defend ant's counsel next offers in evidence a stationary candle mould, with the socket soldered at the lower end thereof, for the purpose of receiving the upper end of the candle-tip mould, and also containing the candle-tip mould in combination with such candle, and also in combination at its lower end with the upper end of the drive-rod, by means of a flexible joint or universal joint, and containing also the drive-rod, like those made by defendant, found in his exhibit (H,) and patented to defendant January 22, 1861, by reissue of his patent of July 24, 1855, and which is here marked by the examiner as defendant's exhibit (AA.)

Defendant's counsel objects to this last-named exhibit being used in evidence in this cause, and also objects to the foregoing statement concerning the same and devices, that that exhibit is in any way proved or put into this case, so as to entitle it, if material, to be used as evidence therein.

Defendant's counsel here offers in evidence a machine for making candles, containing metal stationary candle moulds, having candle-tip moulds in combination therewith, and known as the "hand mould stand," and which is here marked as defendant's exhibit (BB.)

Same objection by complainants' counsel as last above.

130 Examination here adjourned by consent of counsel, be resumed in New York city on Thursday morning next, 10th December, at the office of complainants' counsel, 335 Broadway.

THURSDAY, *December* 10—10 o'clock a. m.

At office of George Gifford, esq., New York, examination resumed in presence of Mr. Andrus, counsel for plaintiff, and Mr. Norton, counsel for defendant, and also defendant in person.

The defendant here produces before me Francis C. Treadwell, a witness; being duly sworn, testifies and says on part of defendant:

Question 1. Have you been examined as an expert in this case on the part of the plaintiffs; and if so, when?

Answer. I have during some time last summer or spring. I refer to the records for dates.

Question 2. Have you on several occasions during the examination of the witnesses on the part of the defendant at Troy, N. Y., appeared as counsel for plaintiffs; and if so, did you give directions as to the manner of the cross-examination of defendant's witnesses on such occasions?

Objected to as irrelevant and immaterial to the issues in this case.

Answer. I am not a lawyer, and have not as, I understand it, appeared as counsel at any of the examinations referred to. The record of the case will show who appeared as counsel. I did attend the examination of witnesses in Troy as an expert twice—I think perhaps three times, by directions of Mr. Gifford, counsel for plaintiffs. One of those times when I was present, and Mr. Lyon, who appeared for the plaintiffs, wished to be absent for an afternoon, by mutual agreement between the counsel, I proceeded to ask some questions of the witnesses. I at first declined to do so, but Mr. Norton, counsel for defendant, wished me to go on, saying that it would be the same as if Mr. Gifford or the other counsel in the case examined the witness, and that he would make no objection hereafter to the proceedings, and would not refer to it in any way hereafter in the case. I think it was the witness Sanderson that I thus cross-examined. At other times when I attended, I proposed questions to be asked of the witnesses by the counsel, which in my judgment tended to exhibit the material truths in the case. In that way I suppose I gave directions to
131 the cross-examination as experts generally do in patent cases when counsel are not familiar with the mechanics of the case.

Question 3. Who procured the attendance of Mr. Lyon as counsel on the occasion to which you refer?

Same objection as above.

Answer. I did, by direction of Mr. Gifford, counsel for plaintiff. The facts were as follows: Mr. Gifford stated to me that testimony was to be taken on the part of the defendant at Troy, and that he was so engaged in other suits that he could not possibly attend, and that Mr. Andrus, who had also appeared in the case for plaintiffs, was absent on other business and he could not attend. That he, Mr. Gifford, did not wish to have the examination delayed on that account, and desired me to go to Troy to get a lawyer to attend at the exami-

nation for him, and to attend the examination myself, and to give the lawyer such information in relation to the subject-matter of the examination as I possessed, and to suggest such questions to him as I deemed best calculated to draw out from the witness the material facts pertinent to the case. Also to request the lawyer to be on hand to attend at any examination of defendant's witnesses at Troy. This is the substance of my instructions from Mr. Gifford. I cannot, of course, relate the exact conversation.

Question 4. Did you, at a subsequent time, attend an examination of defendant's witness in Troy, and did you, on that occasion, procure counsel to whose appearance objections were made by defendant's counsel?

Same objection as above.

Answer. On a subsequent occasion from my first visit to Troy I went by Mr. Gifford's directions to Troy, and called on Mr. Lyon, the counsel who appeared on the former occasion, and with him proceeded to Mr. Norton's office, to attend an examination of witnesses there. I don't understand that Mr. Norton made objections to Mr. Lyon's appearance as counsel. He talked about making an objection, and said he thought he would make an objection on the ground that Mr. Lyon had not been admitted to the United States circuit court; but Mr. Norton finally said that upon consideration he thought it would be very small business, and he told Mr. Lyon that he would consent to his going on without objection.

Question 5. Did Mr. Lyon appear as counsel on that occasion; and if so, did he act as counsel?

Same objection as above.

Answer. I believe he did in the morning of that day. In the afternoon he produced a brother lawyer, whose name I do not recollect, to appear for him.

132 Question 6. Did counsel named by you on that occasion cross-examine witnesses in their own manner and free will, or did they have instructions as to the questions which they proposed; and if so, by whom were the instructions given? Please answer the question specifically.

Same objection as above, and also as leading, and the examiner is requested to instruct the witness to answer the questions in his own way.

Examiner so instructs the witness.

Answer. I think only one witness was cross-examined on that occasion. His name was Humiston. The lawyer appeared, so far as I could judge, in the full exercise of his free will, and the questions were asked by him. I never heard him ask questions before, and so cannot tell whether they were asked in this manner. The questions were asked from information furnished to him by me, in some cases, no doubt, in substantially the language that I suggested to him. I don't know that any one prevented him from asking any question that he saw fit, but, as far as I recollect, he asked such questions as I suggested, or as grew out of matter I suggested.

Question 7. Who kept the record of the testimony so taken, if any one, on the part of the plaintiffs on that occasion?

Same objection as above.

Answer. When I last saw the copy or notice of the examination they

were in the hands of Mr. Andrus, in New York. The last I saw of them in Troy they were in the hands of Mr. Lyon. I took down part of the minutes, and the lawyer, Mr. Lyon's friend, I believe took down part. Mr. Lyon requested me to, as a favor to him, take down the examination as it progressed, and I did the greater part of it.

Question 8. What did you do with the minutes of that testimony which you took on that occasion?

Same objection as above.

Answer. I gave them to Mr. Lyon.

Question 9. Were you employed by Mr. Gifford to do so, and what you have testified to on each of these occasions, and did you receive compensation therefor; and if so, by whom?

Same objection as above.

Answer. I did it, as I have before stated, by direction of Mr. Gifford, and I charged the plaintiff for my services.

133 Question 10. Were you employed by any one to do as you have testified you did do on these occasions, or did you volunteer such services?

Same objection as above.

Answer. I certainly did not volunteer. I have stated all the facts with reference to my going to Troy. Whether I was employed to do what I did is a mere conclusion from the facts I have stated.

Question 11. Is what you did on those occasions the ordinary duties of an expert?

Same objection as above.

Answer. Partly, and partly not, the ordinary duties of an expert.

Question 12. About what length of time have you been an expert in patent cases?

Answer. I have been examined at different times as an expert during the last seven years.

Question 13. Is experting in such cases the principal part of your business or occupation?

Objected to.

Witness here asks: Will the counsel please to explain what he means by the term experting?

Counsel for defendant says, that he means by experting just what Webster means in his definition of that term in the pictorial edition of his Unabridged Dictionary.

Answer. I have examined Webster's Unabridged Dictionary, with pictorial illustrations, edition of 1860, and cannot find the word experting in said dictionary, and do not know as it is a word in the English language.

Question 14. Same question repeated. I mean by experting, a performing of the ordinary duties of an expert in patent cases, and in this view I request the witness to answer question.

Same objection.

Answer. I understand the question as amended to ask me if I am principally employed as an expert in patent cases; and I answer, that for the last year or two past that part of my business has exceeded my patent agency business, but by how much I cannot tell. I think it takes up the largest portion of my employed time.

Question 15. Do you usually receive as such expert an advanced retainer?

Objected to as irrelevant and immaterial to the issue in this case.

Answer. I usually do.

Question 16. In about how many cases during the last three
134 years have you been so retained and examined by Mr. Gifford, counsel in this case?

Same objection.

Answer. I cannot state the number of cases in which I have been retained and examined as an expert by Mr. Gifford. Perhaps a half a dozen.

Question 17. Have you been subpœnaed on the part of the defendant for to-day's examination?

Answer. Yes.

On cross-examination witness testifies:

Question 18. Have you any interest, pecuniary or otherwise, in the result of this suit?

Answer. I am not interested in any manner in the subject-matter of this suit, and have nothing whatever depending upon the result of it.

Question 19. Have you any bias or ill feeling towards the defendant which would lead you to testify otherwise than to that which is strictly true or which would lead you to act in the matter otherwise than impartially?

Objected to: First, defendant has never claimed and does not pretend that the witness is hostile to the defendant in any manner whatever; and second, the truth and veracity of the witness is not questioned by the defendant.

Answer. I have no bias or ill feeling toward the defendant whatever, neither have I any bias or any other than a friendly feeling.

Question 20. Were the complainants or either of them present at the examination in Troy referred to in your direct examination?

Answer. Mr. Seguine, one of the complainants, was present a part of the time at the first occasion I have referred to.

Question 21. What was the occasion of your attending the examination at Troy the second time when you attended there, when Mr. Humiston was examined?

Answer. A messenger from Mr. Gifford came to me and stated that Mr. Gifford wished me to go to Troy and attend the examination of witnesses there with Mr. Lyon, as I have, I believe, before stated.

On redirect examination by counsel for defendant, witness testifies:

Question 22. Have you ever stated that in your judgment, or given it as your opinion, that plaintiffs in the case would succeed against the defendant, or anything in substance the same?

Objected to as irrelevant and immaterial, and as new matter.

135 Answer. I do not now recollect any time or place or person, at which or to whom I have made such statement or statements, but think it is likely I may have done so in conversation, because of my opinion that the defendant's machine infringes upon plaintiffs' patent.

Question 23. What is your opinion as to the success of the plaintiff against the defendant in this suit?

Same objection as last above.

Answer. So far as my judgment goes, and so far as my knowledge of the subject-matter of the plaintiffs' patent, the defendant's machine and the old machines and patents referred to in the case assist my judgment. It is my opinion that defendant infringes the plaintiffs' patent, and therefore the plaintiff must succeed.

Question 24. Do you mean to be understood, in giving your opinion, that these plaintiffs will succeed in the suit against the defendant?

Same objection, and because the question is already substantially answered.

Answer. No; I don't mean to be understood so broad an opinion as that. You might as well ask me to tell you what I thought a judge or jury would decide before I had seen or heard all the evidence in the case. I can only express my opinion upon the question of infringement and novelty of plaintiffs' patent, so far as any information I have bears upon it.

Question 25. Having voluntarily testified on this examination that defendant's machine infringes the plaintiffs' patent in suit, do you mean to be understood as giving an opinion otherwise than is stated in your last answer?

Objection as above, and because assuming that the witness has volunteered statements in answer to questions.

Answer. The question is so obscure that I don't know as I understand it. I certainly don't mean to express a volunteer opinion as to the result of this litigation.

F. C. TREADWELL, JR.

Subscribed and sworn before me, this 10th December, 1863.

A. A. BOYCE, *U. S. Examiner.*

Ninian Stevenson, a witness produced and sworn for defendant, testifies and says:

Question 1. What is your name, age, residence, and occupation?

Answer. My name is Ninian Stevenson; my age is 33 years; my residence is No. 82 Second street, in New York city; and my
136 occupation is that of a soap and candle manufacturer.

Question 2. About how long have you been engaged in the business referred to?

Answer. About 13 years.

Question 3. Are you acquainted with a candle machine known and called the Humiston candle machine; and if so, for about what time?

Answer. I have been acquainted with it for about five years.

Question 4. Are you acquainted with the use or operation of the Humiston machine?

Answer. I am.

Question 5. State whether or not, from your knowledge of such machine, it contains a candle mould, a candle-tip mould, connected by a universal joint to a drive-rod, like defendant's exhibit (AA) now shown you?

Objected to as leading.

Answer. It does.

Question 6. Are those machines, or have they been, extensively used by your firm during the past four or five years?

Objected to as leading.

Answer. They have.

Question 7. Are you acquainted with the candle machine known and called the Stainthorp candle machine; and if so, for about what length of time?

Answer. I am, and have been for three or four years, as near as I recollect.

Question 8. Have you seen in use several of said Stainthorp's machines?

Answer. I have.

Question 9. Did such Stainthorp machine contain candle mould and piston, with candle-tip mould in the upper end thereof, like defendant's exhibit (NN) now shown you?

Objected to as leading.

Answer. It did.

Question 10. Look at defendant's exhibit (K,) and state whether or not such Stainthorp machine contained a rack and tip bar like that now shown you in exhibit (K.)

Answer. It did not; they had clamps on.

Question 11. State whether or not the firm whereof you are a member purchased of Stainthorp & Co., plaintiffs in this suit, candle machines which contained candle moulds and pistons, with candle-tip moulds in their upper ends, and in combination like defendant's exhibit (NN) now shown you?

137 Objected to as leading.

Answer. They did.

Question 12. Were these machines, so purchased, alleged by plaintiffs to have been made under the Stainthorp patent, upon candle-moulding machines?

Objected to.

Answer. They were.

Question 13. State whether or not, after such purchase, you used at the establishment of your firm the Stainthorp candle machine, and whether you continued and now have the same in use.

Answer. When we first got them we tried to use them, but never succeeded to our satisfaction. We then had their clamps exchanged for those of Mr. Humiston's patent, and even then could not work them. They were then set aside, and after some time were sent to Mr. Humiston to have the moulds recast into his machines. We have no machines now of Stainthorp's patent in our works, excepting one sent to us by Stainthorp & Co., as I have been informed, as a sample, since we were burnt out.

Question 14. State whether or not you intend to put in use at your works the Stainthorp machine upon the resumption of your business in your new works.

Answer. Not that I know of.

Question 15. What candle machine, if any, do you intend to so put in use?

Answer. We have twenty of the Humiston patent in our works. Ten more were ordered to make a beginning.

Question 16. State whether or not, the Stainthorp candle machine so purchased by you as having been made under the Stainthorp patent, and like the sample as to piston and moulds sent by them to your works recently, and containing candle moulds with pistons therein with candle-tip moulds in the upper ends thereof like defendant's exhibit (NN,) in principle and operation as to utility and usefulness have been and are condemned by you and your firm.

Objected to as assuming.

Answer. As to the last machine, I have not yet seen it. The machines we had before they were altered by Humiston we considered of little or no use whatever.

Question 17. What is the name of the firm whereof you are a member?

Answer. Allen, Hay & Co.

Question 18. Have your firm obtained of and from the plaintiffs, Stainthorp & Co., the right by license to manufacture and use
138 at your works candle machines under the Stainthorp patent in suit; and if so, at about what time?

Answer. We have. As to the time I cannot tell. It was within three years, more or less.

Recess to 3½ p. m.

3½ p. m.

Question 19. Have your works in this city been recently burnt?

Answer. They have, on the 25th April, last.

Question 20. At the time of the fire referred to in your last answer, about how many candle machines did you have in use, and under whose patent were they constructed?

Answer. About one hundred, of Humiston's patent.

Question 21. Did and does the Humiston machine operate in the manufacture of candles to your entire satisfaction; and if not, why not?

Answer. We consider it the best machine we have yet had in our works.

Question 22, State whether or not the clamps referred to by you as being upon the Stainthorp machine testified to by you, were in construction and operation similar and substantially the same as the clamps now shown you upon defendant's exhibit (Q.)

Objected to as leading, and also because it does not appear that this witness is an expert in the construction of machinery.

Answer. They were substantially the same with this difference, that the Humiston clamp holds the candle tight, while the clamp in the Stainthorp machine did not.

On cross-examination by plaintiffs' counsel, Mr. Andrus, witness testifies:

Question 23. How long have you been a member of the firm of Allen, Hay & Co., and what persons compose that firm?

Answer. I have had an interest in the profits of the firm since the beginning of 1859. The responsible members of the firm are Allen Hay and Thomas Hay.

Question 24. Were you connected with the firm of Allen Hay & Co. prior to the beginning of 1859; and if you were, in what capacity, and how long have you been connected with that firm?

Answer. I went with them in July, 1850. Up to 1855 I was bookkeeper and general clerk. From 1855 to 1859 I was a sort of general superintendent of candle factory, having full charge of their candle department.

139 Question 25. When did Allen Hay & Co. first procure candle machines of Stainthorp & Co., and how many?

Answer. As near as I can recollect, about three years ago. They procured six, if I recollect right.

Question 26. Were all these Stainthorp machines put in use at the establishment of Allen Hay & Co., in New York, in the manufacture of candles?

Answer. They were.

Question 27. How long did these machines remain in use at that establishment?

Answer. I could not say as to the time. We experimented with them until we found they were of no use to us. We then had the clamps changed by Humiston for his patent. After working with them again with the new clamps, we found that it did not materially better the machine. We then sent the six Stainthorp machines to Humiston at Troy, and had them made over into machines of his patent.

Question 28. When did your firm first procure candle machines of Willis Humiston?

Answer. About five or six years ago, as near as I can recollect.

Question 29. How many candle machines did your firm procure of him prior to about three years ago, when you got the six Stainthorp machines?

Answer. Between fifty and sixty, somewhere in that neighborhood.

Question 30. How many Humiston machines had your firm in use when they procured Stainthorp machine, about three years ago?

Answer. About fifty or sixty.

Question 31. What occasioned your firm to procure those six machines of Stainthorp's?

Objected to as immaterial and improper.

Answer. I could not say, except Mr. Stainthorp would come to sell them, and we took them to try them.

Question 32. Do you mean to state that your firm did not make candles with the six Stainthorp machines?

Answer. We made some candles with the machines in our experiments, but they never worked to our satisfaction.

Question 33. About how many months did you experiment with these six machines in the manufacture of candles?

Answer. I could not say how long. We experimented with them for some time, but long enough to find they were of no use.

140 Question 34. About how many candles did your firm manufacture with these six machines?

Objected to as wholly immaterial, the witness having already testified, both upon his direct and cross-examination thus far, that the said Stainthorp machines were entirely useless for the purpose of manufacturing candles at their manufactory.

Answer. I have not the slightest idea. I don't suppose we ever sold but few candles made by those machines.

Question 35. Were the few candles manufactured by these six machines put up by your firm and sold in the market the same as any other candles made by your firm?

Answer. I presume they were, if the candles were perfect.

Question. 36. In what respect did you find these Stainthorp machines to work imperfectly?

Answer. In the first place, the clamps did not hold the candle tight, so that the wick was not in the centre of the pipe, thereby causing the candle to have what we call a side wick; and in turning the crank to hoist the candles out of the moulds, the piston board did not come up square without having a man to hoist at each end of the machine.

Question 37. Are the defects enumerated in your last answer all the defects in the Stainthorp machine which you refer to on this examination, and which rendered them, in your judgment, comparatively useless?

Answer. They are, as far as I know.

Question 38. What board do you refer to in your answer to the 36th cross-interrogatory as being the piston board in the Stainthorp machines?

Answer. I mean that holds the lower ends of the piston rods.

Question 39. Are you familiar with the contents of the letters patent of the U. S., granted to John Stainthorp March 6, 1855, and on which this suit is brought?

Answer. I am not.

Question 40. Have you ever read or examined them?

Answer. Not that I know of.

Question 41. Are you familiar with the contents of any letters patent of the United States granted to Mr. Humiston, the defendant, relative to candle machines, or have you ever read or examined them?

Answer. I may have looked at them, but I have not the slightest recollection of their contents.

Question 42. Do you mean to be understood as stating that any of the so-called Stainthorp machines, used in the establishment
141 of Allen Hay & Co., were made, having in them the defects enumerated in your answer to the 36th interrogatory according to the patent on which this suit is brought?

Answer. I know they were Stainthorp machines, because they had his name on them, and were bought of Stainthorp & Co. I went to Stainthorp & Co., when we found we could not work them, requesting them to come to our works and put the machines in working order, and, as far as I know, it was never done.

Question 43. Which member of the firm of Stainthorp & Co. did you request to put those machines in order?

Answer. I don't know who he was. It was a gentleman at the desk in the office. Not Mr. Stainthorp himself. I know him.

Question 44. Do you know that you spoke to any member of the firm of Stainthorp & Co. about putting those machines in order?

Answer. When I went to the office I inquired for Mr. Stainthorp. I was told he was not in. I then stated my business, and was told that it should have immediate attention. I don't know whether this person at the desk was one of the firm of Stainthorp & Co. or not.

Question 45. Are you not aware that those six so-called Stainthorp machines were imperfectly made, and that their defective manufacture was the cause of their not working well, and that this fact was well understood and admitted both by your firm and Stainthorp & Co.?

Answer. I am not.

Question 46. Did not Stainthorp & Co. state to your firm, or to one of the members thereof, that these six machines had been made by some party whom they had employed to make them, and that they had been imperfectly made?

Answer. Not that I am aware of.

Question 47. Have not your firm had candle machines of Mr. Humiston, the defendant, which did not work well and which were returned to him to be made perfect?

Answer. We had candle machines from Mr. Humiston made with pipes that we thought rather thin, and returned them with more metal to have them made thicker.

Question 48. Was this all the alteration he made to the Humiston machines which your firm returned for alteration?

Answer. It was, with the exception that we had an old wooden machine made over into iron. This is all the alterations as far as I know.

142 Question 49. In the manufacture of such machines as candle-making machines, which require great skill and exactness in their manufacture, is it not a common thing for machinery to be defective in some of its working parts?

Objected to as immaterial; and second, as no part of the legitimate cross-examination of this witness, he having not been interrogated on that subject for that purpose on his direct examination.

Answer. As far as my experience goes, we have had but little difficulty with our candle machines, with the exception of those we had of Stainthorp & Co.

Question 50. In your answer to the 36th interrogatory you state that the clamps on the Stainthorp machine did not hold the candles tight. Do the Humiston clamps which you have used hold them tight?

Answer. They do.

Question 51. What is the object of having the candles held tight in the clamps?

Objected to as immaterial and not any part of the legitimate cross-examination of the witness.

Answer. It keeps the wicks in the centre of the pipes.

Question 52. Is this the only object?

Answer. It holds the candles so as you can tighten the wick if it was too easy through the piston. That is all, as far as I know.

Question 53. Then if the wicks had been correctly centred in this so-called Stainthorp machine, and the piston board had come up square, the machines would have worked successfully, would they not?

Answer. I could not say as to that. There may have been some other defects in them that I did not see. These were the main objections that I found.

Question 54. Do the Humiston machines, which your firm have had in use, employ in them stationary candle moulds to form the candles?

Answer. Yes, sir.

Question 55. Do these Humiston machines employ in them drive-rods or pistons in these stationary candle moulds, having at their upper ends tip moulds to form and hold the tips of the candles?

Objected to, as this witness was not offered by the defendant, or examined as either a practical or professional expert.

Complainants' counsel says he does not ask to make one of him.

Answer. They do.

Question 56. Do the drive-rods or pistons in Mr. Humiston's
143 machines eject the candles out of the stationary candle moulds into a receptacle to hold the candles in a vertical direction?

Same objection as last above.

Answer. They do.

Question 57. How long after your firm had procured those six candle machines of Stainthorp & Co., before they took a license to make and use candle machines under the Stainthorp patent?

Answer. I don't know. I have not the slightest idea.

Question 58. How did your firm happen to take a license to make and use the Stainthorp machine?

Objected to as immaterial.

Answer. I don't know.

Question 59. How much did your firm pay or agree to pay for this license?

Objected to for above reasons, and also because the secrets or the business of this firm cannot be required of this witness for any of the purposes of this suit.

Answer. I don't know.

Question 60. Which one of your firm negotiated the license to make and use candle machines under the Stainthorp patent?

Answer. I believe it was Mr. Allen Hay, our principal.

Question 61. Who directed the Stainthorp machine to be procured for your firm which you now have there?

Answer. I understand it was sent by Mr. Seguine, one of the plaintiffs, to our factory as a sample of what they are now making.

Question 62. Who told you so?

Answer. I believe it was Mr. Thomas Hay, one of the firm.

Question 63. When did he tell you so?

Answer. Some week or two ago.

Question 64. Have you examined this Stainthorp machine which was last sent to your factory?

Answer. I have not.

Question 65. Do you know whether or not it possesses the defects spoken of by you as existing in the first six Stainthorp machines, or any of them?

Objected to on the ground that the witness says he has never examined the machine.

Answer. I do not.

Question 66. In your direct examination you speak of having seen in use Stainthorp machines. Have you ever seen them in use
144 elsewhere than at the establishment of Allen Hay & Co., as you have stated?

Answer. I have not.

Question 67. Can you describe the clamps which you say were first on the so-called Stainthorp machines at your establishment?

Objected to for the reasons above given.

Answer. I don't know as I could without reference to the models.

Question 68. Can you describe the clamps on any of these machines at any time?

Answer. Not without models.

Redirect examination by defendant's counsel. Witness testified:

Question 69. Please state whether or not in the Humiston machines, as used by your firm, has the candle-tip mould constructed like, and connected to the drive-rod, in the manner like defendant's exhibit (AA,) now shown you; and if so, do such machines make good and marketable candles in large quantities at one and the same operation?

Answer. To the first part of the question they have those tips thus connected with the drive-rod, as shown in their exhibit (AA,) and they do make candles in the manner required of.

NINIAN STEVENSON.

Subscribed and sworn before me, this 10th December, 1863.

A. A. BOYCE,
U. S. Examiner.

FRIDAY, *Dec.* 11, 1863—10 o'clock a. m.

Examination resumed at office of Mr. Gifford, in New York city, in presence of Mr. Andrus, counsel for plaintiffs, and Mr. Norton, counsel for defendant.

The defendant offers James Boyd as a witness, who, being duly sworn, testifies and says:

Question 1. What is your name, age, residence, and occupation?

Answer. My name is James Boyd; my age is sixty-five years; my residence is 12 Franklin street, New York city; and my occupation is a tallow chandler.

Question 2. About how long have you been engaged in this city in the business mentioned by you in your last answer?

Answer. Over forty years.

Question 3. Are you acquainted with the plaintiffs, or either of them, and with the defendant in this suit; and if so, for about what length of time?

Answer. I have known Mr. Stainthorp for about ten years,
145 and have known Mr. Humiston for about seven years. I don't know Mr. Seguine, one of the plaintiffs.

Question 4. Do you manufacture candles at your manufactory in this city by machines for that purpose; and if so, what is the name of the machine used, and by whom are they made?

Answer. We do manufacture candles by machines called the Humiston machine, and ordered of him, and, as I understand, made by him.

Question 5. For about what length of time have you used said machines? and state whether or not said machines have given you universal or perfect satisfaction in the manufacture of marketable candles.

Answer. We have manufactured candles for about seven years, last past, with said machines, and they have given us every satisfaction.

Question 6. Have you said machines now in use, and at your works; and if so, about how many?

Answer. We have; and have twenty-six in operation to-day.

Question 7. Are you acquainted with a candle machine known as the Stainthorp candle machine, manufactured by plaintiffs in this suit?

Answer. Yes, sir.

Question 8. Have you ever had in your manufactory any of the Stainthorp machines for moulding candles; and if so, about how many, and how did they work as a machine for making candles for the market?

Objected to by plaintiffs' counsel, unless the defendant first shows that the machines referred to in this question were made and operated under and according to the Stainthorp patent.

Answer. We had one of the Stainthorp machines. We had it about eight years ago, bus we could not make candles with it. Stainthorp's son was employed in Brooklyn in manufacturing candles, and we sent over to him to come and instruct us in the machine if he could, and he came and tried to fix it and get it in operation, but he could not succeed in making it work.

Question 9. Did Mr. Stainthorp, of the firm of Stainthorp & Co., ever call at your works subsequent to the failure of the machine you have described in your last answer; and if so, for what purpose did he so call?

Answer. He did not call.

Question 10. Have you ever had any conversation with plain-
146 tiff Stainthorp in relation to the working of his machine for making candles?

Objected to.

Answer. I had.

Question 11. State the time and what was said, as near as you remember.

Objected to.

Answer. It was about a year after I obtained the machine from him. He said it was a good machine. I told him it was of no use. We set it aside as it was of no use. This was all that was said.

Question 12. When you informed Mr. Stainthorp that his machine was of no use and you could not make it work, as you have testified, what reply, if any, did he make to such information made by you to him as you have testified?

Objected to: First, as immaterial and irrelevant; second, that the question assumes that the witness has used language in his conversation to Mr. Stainthorp which the witness has not stated that he used to him.

Answer. He made the reply, it was a good machine.

Question 13. Previous to this purchase of this Stainthorp machine, had you in use any of the candle machines known as the Humiston machine?

Answer. No, we had not.

Question 14. Of whom did you purchase the Stainthorp candle machine about which you testified?

Answer. From Mr. Kettle, partner to Stainthorp.

Question 15. A partner in what?

Answer. In the machine and in the patent right.

Question 16. How came you to purchase the Humiston candle machine about which you have testified?

Answer. I went to Mr. Hay's candle factory, and saw that it was a good working machine. I went there at Mr. Hay's invitation, to see them manufacture candles on those machines. After this I bought the Humiston machines.

Question 27. Why did not you continue to purchase and use the Stainthorp machine like that which you say you purchased of Mr. Kettle?

Answer. We did not want to invest any more money in an article that we could not manufacture with.

Question 18. Why do you not now use what is known as the Stainthorp candle machine?

Answer. We have a superior machine for manufacturing candles. That is the Humiston machine.

Question 19. Messrs. Stainthorp & Co., plaintiffs in this suit,
147 residing in this city, and somewhat near your works, if you desired to use a machine under the Stainthorp patent, or known rather as the Stainthorp machine, you could purchase for that purpose such machinery, could you not?

Objected to by plaintiffs' counsel: 1st, as irrelevant, frivolous, and immaterial; 2d, that it does not appear that this witness has ever seen a machine made and operated according to the Stainthorp patent; 3d, that it does not appear that the witness has any knowledge of the contents of the Stainthorp patent, or that he has ever seen or examined the same.

Answer. Yes. I would purchase it on the condition that I could purchase it for the old metal that was in it.

Question 20. State whether or not you have obtained license in writing, or otherwise, from Stainthorp & Co., for the perpetual right to make and use candle machines under their patent in suit, for the purpose of manufacturing candles in your manufactory.

Answer. I have a full shop right from Stainthorp & Co. to manufacture candles in this city under Stainthorp's patent.

Question 21. From your knowledge, and from all the information which you have ever obtained concerning the Stainthorp candle machine, made by Stainthorp & Co., in this city, state whether or not, upon such knowledge and information, good and marketable candles can be made in and by such machines.

Objected to.

Answer. From all the information I have obtained from different parties they were not marketable on account of the wick being on one side. If you get a candle with the wick on one side they are not salable. The tips would break. With the stationary tips they had, they are liable to break.

Question 22. Do the Humiston machines which you now have in use contain candle moulds, candle-tip moulds, and drive-rods connected with the candle-tip mould by means of a flexible joint like defendant's exhibit (AA) now shown you?

Objected to, as leading and suggestive.

Answer. They are the same as this exhibit in all the machines.

Adjourned to 1 p. m.

148 At 1 p. m., examination continued.

On cross-examination witness further testifies:

Question 23. Are you engaged in the manufacture of candles alone, or in company with some other person; and if so, whom?

Answer. I am engaged alone, and no one else in company with me. My son is employed in my factory.

Question 24. Have you been sued by Stainthorp & Co., or threatened with suit, for an infringement, or alleged infringement, of Stainthorp's patent?

Objected to as immaterial and irrelevant, and as new matter.

Answer. I never was sued, neither was I threatened with suit.

Question 25. How long ago did you obtain a shop right to make and use candle machines under the Stainthorp patent?

Answer. It must have been about three years ago.

Question 26. Why did you procure a shop right under the Stainthorp patent?

Objected to as immaterial.

Answer. From a condition with Kettle.

Question 27. Question repeated.

Answer. I obtained it from a condition with Kettle for a shop right.

Question 28. Who gave you this shop right which you say you obtained about three years ago?

Answer. It was Stainthorp & Co. It was my counsel who obtained it for me.

Question 29. Who was your counsel?

Answer. It was Swayne & Stillwell, of this city.

Question 30. Did you employ the counsel to obtain a shop right for you of Stainthorp & Co.?

Objected to as immaterial.

Answer. No, sir.

Question 31. How did you happen to employ them to obtain this shop right for you to make and use candle machines under the Stainthorp patent?

Objected to as immaterial.

Answer. I employed them for to examine the documents I had got from Kettle to see who was entitled to receive the balance of the fee for this shop right.

Question 32. After they had examined into the matter they advised you, did they not, that you was liable to pay it to Stainthorp & Co.?

Objected to as immaterial, and as no part of a legitimate
149 cross-examination of the witness, he not having been interrogated on his direct examination about any matter of difference between Stainthorp & Co. and Mr. Kittle.

Answer. Yes, sir.

Question 33. Was not Stainthorp & Co. threatening to bring a suit against you for infringements of their patent if you did not pay up the amount they claimed for the shop right?

Objected to for all the reasons above given, and for the additional reason that the witness has, on his cross-examination, already stated that Stainthorp & Co. did not threaten him with suit.

Answer. No, sir.

Question 34. Who do you mean in your examination by the terms we and us?

Answer. I mean my sons and myself.

Question 35. What are your sons' names?

Answer. John, Andrew, and James.

Question 36. When and where did you read or examine a Stainthorp patent, or a certified copy of it?

Objected to, 1st, because it is immaterial whether this witness has read the patent or not; 2d, this witness has not been offered by defendant as a practical or professional expert, and was not inquired of on his direct examination as to whether or not he had read said patent; and 3d, that the plaintiffs' counsel objected on the direct examination to a certain question, on the ground that it did not appear that the witness had ever seen, or read, or examined the said Stainthorp's patent.

Answer. I don't recollect of ever seeing or reading it.

Question 37. How do you know that Kittle was a partner with John Stainthorp when you got the so-called Stainthorp machine of him?

Answer. I obtained it from James Backam. He went and examined the documents, and came to the conclusion that Kettle had the authority.

Question 38. How do you know that he went and examined the documents?

Answer. He told me so.

Question 39. Give as nearly as you can the date when you obtained this candle machine from Kittle, specifying the time of the year when you obtained it?

Answer. It was about eight years ago. I think it was in the month of August.

Question 40. Do you know when Kittle got the machine?

Answer. No, sir.

Question 41. Do you know who made the machine?

150 Answer. No, sir.

Question 42. What defects did you find in this machine?

Answer. We could not make any candles with it. There was not power in the machinery. The crank broke the machinery. That was all, and then we set it aside.

Question 43. This, then, was the reason why you condemned the machine and set it aside, was it not?

Answer. Yes, sir.

Question 44. If the crank had been fixed so that it would not break the machine, the machine would have worked better, would it not?

Objected to, for all the reasons above given.

Answer. It would not work any way. It would not hold the candles. They would work back and forth, with the wicks of the candles working on one side. The rack above would not hold the candles. They were loose in it. I had competent men to examine the machine and rack altogether, and found it entirely useless.

Complainants' counsel objects to all parts of the foregoing answer, not being responsive to the question, as having been volunteered by the witness, and called out by interfering remarks from the defendant's counsel.

Defendants' counsel denies that he has interfered in any manner whatever with the witness as to what he should testify to on this cross-examination, and he desires nothing more nor less than to insist, sometimes with energy, as to what the witness did state in reply to questions should be put upon the record, and charges the fact to be that, during all the direct examination, a constant and persistent interference by plaintiffs' counsel with this witness in his answer to questions; and also charges the fact to be that, during the cross-examination of this witness, and after the question has been put, a continual interruption of the witness, by puting questions to the witness which he did not testify to, and by asking the witness questions during his examination which do not appear on the record.

Complainants' counsel replies, that the foregoing statements of the defendant's counsel are entirely false, unfounded in fact, so far as they relate to him; but he admits the witness has been constantly interrupted during this examination, but the interruption and interfering remarks have almost universally been made by defendant's counsel, and this witness speaks very broken English and speaks fast, and that it is difficult to understand and take down all he says, and in the exact way in which he says it. That the remarks he has made during this examination as to what the witness said has generally

151 been inquired of the examiner, in order to enable complainants' counsel to take down testimony exactly as the examiner has it, so that he can cross-examine the witness and have an exact copy of his testimony before him. That the witness, after fully an-

swering the question, frequently goes on with a conversation with the defendant's counsel, and defendant's counsel insists upon having such parts of his outside statements as suits him put down as a part of the witness's answer to the question, and with this irregular and improper way of getting down testimony in the case he objects, and charges it to be an effort on the part of the defendant's counsel to smuggle into the case statements of the witness not responsive to the question, or called out by or having anything to do with the question, or with any legitimate testimony in the case. That if defendant's counsel will now quit, and let the witness give his testimony in his own way and in his own words, and have it so taken down by the examiner, it is all he asks or desires on the part of his clients, and he shall insist upon this being done without any interruption of defendant's counsel.

Defendant's counsel replies to the statements last made by plaintiffs' counsel, and especially to those of personal character, every one of which defendant's counsel charges to be wilfully false; that he has not made a single statement to this witness to which witness testified, and which the examiner put upon the record as evidence, and the defendant's counsel here calls upon and inquires, both of the witness and of the examiner, to here on this record state that if the statements made by plaintiffs' counsel on that behalf and in that respect are true; and especially does defendant's counsel here call upon the examiner to state that if such be the fact—if he has taken as testimony any statements made by defendant's counsel, or any other than that to which the witness has testified. And the defendant's counsel further says that the examiner has been interrupted in taking the testimony of this witness by counsel on both sides—the counsel for plaintiffs interrupting the witness under the pretence that he could not understand broken English, or, rather, the testimony of a witness of Scotch birth; the defendant's counsel interrupting to prevent the interruption and unfairness of plaintiffs' counsel, so that what the witness did testify to, just as he testified, might be put upon the record; that the defendant's counsel has only interrupted to prevent the unfairness of plaintiffs' counsel, and to have the testimony of the witness
152 carefully taken by the examiner; that the defendant's counsel has no fears but that the cross-examination of this witness, if fairly and honorably interrogated by plaintiffs' counsel, will prove satisfactory to the court; that if such course is pursued defendant's counsel will remain perfectly silent.

Complainants' counsel replies that he cannot allow the defendant's counsel to escape from the odium of a just charge, which he has made against him, of repeated and continued interference with the witness by sheltering himself under the pretence that the examiner has only taken down what the witness said; that he has made no pretence or claim that the examiner has taken down, as testimony of the witness, anything which the witness did not say; but he did complain of and does complain of the aid and suggestion which defendant's counsel gives to the witness while under cross-examination.

Question 45. Have you now stated all the defects which you found to exist in the candle machine which you procured from Kittle?

Answer. Yes, sir, I have.

Question 46. What do you mean in your answer to the 44th interrogatory, "would not hold the candles?"

Answer. I mean the rack would not hold the candles stationary; the candles in this rack would work backwards and forwards; the rack would not hold them tight; the wick would work back and forwards.

Question 47. Was there any device or means in the rack of this machine to hold the candles from slipping down after it had been ejected from the stationary moulds; if so, what was it?

Answer. None that I know of.

Question 48. Then, when the candles had been ejected into the racks on this machine they would slip down, would they not, into the trough?

Answer. They would slip down and go back and forth; the wick became slack and would double down.

Question 49. Do you mean that the wick would double down between the bottom of the candles and the top of the trough into which the material was poured in this kettle?

Answer. I mean it would slacken down where it ought to be tight.

Question 50. Where had it ought to be tight?

Answer. The candle ought to be tight in the rack to hold up the wick.

Question 51. Are the candles tight in the racks of the Humiston machines which you have used?

153 Answer. Yes, sir.

Question 52. How are they made tight—that is, by what means are they held tight?

Objected to for all of the reasons and objections above given.

Answer. By a loop and a button at the end of the rack.

Question 53. How does this loop and button at the end of the rack make the clamps tight?

Answer. They slip it off with their fingers when they want it off. They take off this rack and dump the candles into a box.

Question 54. Are the places in the racks for receiving the candles in the Humiston machine which you use lined with any material; and if so, with what material are they lined?

Objected to for all the above objections here given.

Answer. Yes, sir. I should think with calico or muslin, or something like that.

Question 55. What are they lined for?

Same objections as above given, and for further objection as intending to unnecessarily prolong the time of the cross-examination of this witness.

Plaintiffs' counsel disclaims any intention to prolong the cross-examination of this witness unnecessarily.

Answer. They are lined to keep the rack from breaking the candles.

Question 56. Are they not lined to keep the candles from slipping down?

Answer. I suppose it answers the purpose of both, to keep them up and to keep from breaking.

Question 57. If you have never seen or examined the Stainthorp patent, how are you able to state that the candle machine sold you by Kittle was made and operated according to that patent?

Objected to on the ground that the witness has not stated any such thing as implied by the question.

Answer. That the condition which Kittle gave me I handed over to my counsel, and he got me a full shop right under that condition.

Question 58. Do you use in the machines which you purchased of Humiston stationary candle moulds?

Answer. Yes, I have used them.

Question 59. Do you know what stationary candles are?

Answer. I won't decide that.

154 Question 60. Do you know what stationary candle moulds are, as constructed in the Humiston machine?

Answer. They are not stationary, for they are movable. In the old mould stand they were stationary. I could show you all the different parts if you will come down to my place and examine them. I can show you better than I can explain.

Question 61. What old mould stand do you refer to in your last answer?

Answer. What is termed the band stand, which we made candles in before these machines came into use.

Question 62. Do you mean to say that the Humiston machines which you have in use at your establishment do not use in them stationary candle moulds?

Objected to on the ground that the witness fully answered it in the last answer.

Answer. No. I wouldn't say they are stationary, for they move up and down.

Question 63. What moves up and down, the stationary candle moulds?

Objected to by defendant's counsel, because this witness is not a professional expert.

Answer. The plate that they are on moves up and down.

Question 64. Then the stationary candle moulds in your Humiston machines are attached to a plate which moves up and down, are they not?

Answer. Yes, sir; or there is a plate below which moves them up and down.

Question 65. How long have you used the Humiston candle machines?

Answer. Six or seven years since I had the first one, I think.

Question 66. When did you get the last one of Mr. Humiston?

Answer. It is some time since I had one. I bought some from a party in this city since I got any of him.

Question 67. Of what other party did you buy them of in this city?

Answer. Mr. Brown, and they have the Stainthorp right under his patent; I guess so.

Question 68. How do you know that these machines which you got of Mr. Brown were authorized to be used under the Stainthorp patent?

Objected to as immaterial and irrelevant and no legitimate part of a cross-examination, and frivolous.

Answer. I know he had Kittle's authority for using them.

155 Question 69. How many candle machines did you procure from Mr. Brown?

Answer. Six.

Question 70. How many candle machines did you procure from parties other than Brown and Humiston?

Answer. None.

Question 71. Who was present, if any one, when you had the conversation with Stainthorp, referred to on the direct examination?

Answer. Not any one.

Question 72. Where was this conversation had?

Answer. In riding to Peck slip, from Duane and Centre street.

Question 73. When was this conversation had?

Answer. It was some time after the condition with Mr. Kittle.

Question 74. About how many years ago was it?

Answer. It must have been five or six years ago, I think. I have not seen Mr. Stainthorp in five or six years, I think.

Question 75. What season of the year was it?

Answer. I think it must have been early in the fall of the year.

Question 76. When, if ever, was Stainthorp at your establishment?

Answer. He was at my establishment about twelve or thirteen years ago, before any of these machines came into use.

Question 77. Has he been at your establishment since that time, that you know of?

Answer He might have been, but I could not be certain. A great many men call at my establishment on business when I am out.

Question 78. Then you don't recollect of Stainthorp being at your establishment after Kittle left his machine there, do you?

Answer. He might have been there, but I don't recollect.

Question 79. Then you don't know, do you, that Stainthorp ever saw this Kittle machine?

Answer. I rather think he never saw it.

Question 80. About how old was Mr. Stainthorp's son, who came to your establishment to fix this Kittle machine?

Answer. I could not say. He might have been eighteen or twenty, perhaps.

156 Question 81. Did not Stainthorp say to you on the occasion of the conversation referred to in your direct examination, that his candle machines were good machines?

Answer. Yes, sir.

Question 82. Was he then speaking of candle machines made according to his patent?

Answer. No, sir; he was speaking about machines which he was going to establish in Brooklyn. He said nothing about a patent.

Question 83. What kind of machines did he say "he was going to establish in Brooklyn?"

Answer. Candle machines.

Question 84. What do you mean by the term "establish" as used by you in your answer to the eighty-second interrogatory?

Answer. I understood him to mean that he meant to establish a candle manufactory in Brooklyn.

Question 85. Then in your direct examination, when you state that Stainthorp said the candle machine "was a good one," did you mean to be understood that you spoke with reference to the machines which were made under his patent, or to such machines as he was intending to make?

Answer. I don't know what he meant by it.

Question 86. When in your direct examination you state that you would purchase the Stainthorp machine if you could purchase it "for the old metal which is in it," do you refer in that answer to such a machine as you got of Kittle?

Answer. Yes, or any of their machines.

Question 87. How many of Stainthorp's machines have you ever used?

Answer. None but Kittle's machine.

Question 88. You mean by Kittle machine the one you purchased of him, do you not, and about which you have testified in this examination?

Answer. Yes, sir.

Question 89. How many machines called Stainthorp's machines have you ever seen in use?

Answer. I have seen two in one place, and five in another, and four or five more at Mr. Hay's. I think these are all I have seen in use.

Question 90. When did you see the two machines referred to in your last answer?

Answer. At a Mr. Bucham's, in Elizabeth street. I think he never used them.

157 Question 91. Then you never saw them used for making candles, did you?

Objected to on the ground of being indefinite, and not being capable of receiving an intelligent answer, unless the machines referred to in the question are specifically set forth as to kind, time, and place.

Answer. No, sir.

Question 92. When did you see the five machines referred to in your answer to the eighty-ninth interrogatory?

Answer. At Mr. Kirkman's, in Catharine street, New York.

Question 93. How long did you see these last mentioned machines work, making candles?

Answer. I didn't see them work any, for I bought the wick they had bought for them.

Question 94. How long did you see the four or five candle machines referred to in your answer to the eighty-ninth interrogatory, at work in Mr. Hay's establishment?

Answer. I didn't see them work at all.

Question 95. Then what do you mean by your answer to the eighty-ninth interrogatory, in which interrogatory you are asked "how many machines called Stainthorp machines you have ever seen in

use," by your answer to that question in these words, "two in one place, five in another, and four or five more at Mr. Hay's. I think these are all I have seen in use?"

Answer. I mean that I had seen the machines, that is all.

Question 96. Have you seen any other candle machines, called the Stainthorp machine, than those you have above enumerated?

Answer. Not any others, particularly.

On redirect examination by defendant's counsel the witness further testifies:

Question 97. Did you, as you testified in answer to question forty-four, have competent men examine the Stainthorp machine which you purchased of Mr. Kittle; and if so, was it so examined, and what was the result of that examination?

Objected to, as the witness has already testified fully about the matter inquired of, and also because the question assumes that this machine was made and operated according to the Stainthorp patent; whereas that fact nowhere appears in the testimony taken
158 in this case, and also because the conclusions of the persons referred to are not competent evidence in this case, are irrelevant and immaterial.

Answer. I did; and their conclusions were that it was useless, and I took the wicks off and set it aside and never used it afterwards.

Question 98. What became of that machine so condemned, so set aside?

Answer. I sold it to defendant Humiston for $40; it cost me $300; and I sold it for what the old metal was worth.

Question 99. Have you, during your examination as a witness to-day, been instructed by the defendant or by his counsel, in any manner whatever, as to the substance, matter, or manner of your examination as such witness?

Answer. None whatever.

Question 100. Have you in any manner whatever, during your examination as a witness to-day, been influenced as to the character of your testimony by any suggestions or interruptions of defendant's counsel during such examination?

Answer. Not any.

Question 101. In your answer to question 57 you used the terms "conditions of Kittle." What did you mean by that?

Complainants' counsel objects to the defendant's counsel going into the subject-matter of any agreement had with Kittle by any one, that matter having several times been referred to by the witness in volunteer statements made by him, not responsive to any question put by the complainants' counsel; and the subject-matter here sought to be introduced is not proper, as this redirect examination is irrelevant and immaterial to the issue in this case, and entirely foreign thereto.

Answer. I mean by the condition in respect to the machines and shop right, the condition with Kittle for two machines; if they would suit the purpose I was to have a shop right.

Question 102. What machine did you refer to in your last answer?

Answer. It was a Kittle and Stainthorp machine.

Question 103. In your answer to question 60 you speak of "old

mould stands" with "stationary moulds." When did you first see such a stand? Give time and place.

Objected to by complainants' counsel, as the old mould stands mentioned by the witness in his answer to the 60th interrog-
159 atory were lugged into the answer without being called out or referred to by the question, and because the subject-matter of this question is not proper to introduce here on this redirect examination.

I saw this kind fifty years ago in Belfast, north of Ireland.

Question 104. In your answer to question 93 you say that you bought the wick which Kirkman had bought for the Stainthorp machine he then had on hand. State how you came to purchase that wick.

Objected to, because the question incorrectly refers to question 93, and because irrelevant and immaterial.

Answer. I was supplying Kirkman with candles. He did not wish to keep the wick, as he did not want to make any more candles.

Question 105. Do you know what became of the Stainthorp machines which Kirkman had on hand at the time you purchased this wick?

Objected to, as it does not appear that these machines were made or operated according to the Stainthorp patent, or that Stainthorp ever saw them or had anything to do with them.

Answer. He retains them yet.

Question 106. Have you ever seen those machines at Kirkman's?

Objected to as irrelevant and immaterial.

Answer. Yes, sir.

Question 107. Are you able to state what kind of machines they represent as to manufacture or construction?

Objected to, as it appears in this case from the testimony of this witness that he has no knowledge of the contents of thepat ent granted to John Stainthorp, and therefore his answer to the question would be irrelevant and immaterial.

Answer. They represent Stainthorp's.

Question 108. In answer to question eighty-nine you state, in substance, that you went to Allen Hay & Co.'s works to see the Stainthorp machine work. Did you see that machine then; and if so, what took place between you and Allen Hay, or any other person, relative to that machine?

Objected to as immaterial and irrelevant.

Answer. Thomas Hay was there and showed me one of the machines with candles suspended in the racks. He said it would not answer their purpose for making candles; it put the wick one side.

Answer of the witness as to conversation with Thomas Hay
160 is objected to as incompetent evidence in this case, and as immaterial and irrelevant.

Question 109. Put the wick one side of what?

Answer. One side of the candle.

Question 110. In your cross-examination you have testified that the stationary moulds in the Humiston machines at your establishment are movable; to which moulds did you refer, the mould which forms the body of the candle, or the mould which forms the tip of the candle, as working up and down?

Answer. I mean the tip mould which moves up by the bed.

Cross-examination resumed:

Question 111. Did this machine which Mr. Hay showed you with candles in the racks appear to have been considerably used?

Answer. No, sir; it appeared to be new.

Question 112. Your attention was only called to this one machine, was it, by Mr. Hay?

Answer. Yes. I called in respect to the settlement they had been making with Stainthorp and Kittle.

Question 113. How long did you remain at Mr. Hay's the time he showed this machine?

Answer. But a short period; twenty minutes or so.

Question 114. When was this that Hay showed you this machine?

Answer. It may be three or four years ago. It was after the time of the decision between Humiston and Stainthorp.

Question 115. Why did not Kirkman want to make any more candles?

Answer. He had enough to do in his soap business.

Question 116. You stated in answer to the 101st interrogatory that you had a "condition" with Kittle, that if the Stainthorp machine suited, you was to have a shop right to use two of them. Did you afterwards take that shop right?

Answer. I made it a condition at the time to have the balance of the shop right if the machine would suit the purpose.

Question 117. Did you afterwards take the balance of the shop right and pay for it?

Answer. Yes, sir.

Question 118. About how long since you took it and paid for it?

Answer. About four or five years, I think.

Question 119. Has the complainants' counsel in this case
161 interfered with your giving testimony therein, and answering fully the questions put to you on either side?

Answer. Nobody has interfered with me.

JAMES BOYD.

Subscribed and sworn to before me this 11th December, 1863.

A. A. BOYCE, *U. S. Examiner.*

Examination adjourned to Wednesday next, at 9 o'clock a. m., to be continued at Troy.

Troy, New York, December 11, 1863.

A. A. BOYCE, *U. S. Examiner.*

United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE
v.
WILLIS HUMISTON.

December 16, 1863. The parties, by their respective counsel, met at the office of M. P. Norton, esq., in the city of Troy, in pursuance of an adjournment, by consent, from the city of New York, and the

hearing is further adjourned, by consent of counsel of both parties, to the American Hotel, in the village of Lockport, Niagara county, on the 17th December, 1863, at 10 o'clock a. m.

JOHN T. LAMPORT,
U. S. Examiner.

THURSDAY, *December* 17—10 a. m.

At American Hotel, in Lockport; examination proceeds in presence of defendant and Mr. M. P. Norton, defendant's counsel, and Mr. M. B. Andrus, plaintiffs' counsel.

The defendant here offers as a witness George Stainthorp, who, being duly sworn, testifies and says:

Question 1. What is your name, age, residence, and occupation; and about how long have you resided there?

Answer. My name is George Stainthorp; my age is about forty-six years; my occupation is that of a soap and candle manufacturer;
162 I reside in the village of Lockport, and have for about twenty-four years past.

Question 2. Are you acquainted with the plaintiff, Stainthorp, in this suit; and if so, for about how long have you known him?

Answer. I am, and have been for over forty years, I should think.

Question 3. Is the plaintiff, Stainthorp, a brother of yours?

Answer. Yes, he is.

Question 4. Is he older or younger than you?

Answer. He is older.

Question 5. Where was you born?

Objected to as immaterial and irrelevant.

Answer. In England.

Question 6. Where was the plaintiff, Stainthorp, born?

Objected to as last above.

Answer. He was born in England.

Question 7. Was your father an Englishman?

Same objection as above.

Answer. Yes, sir.

Question 8. About what time, if at any time, did your father and your brother, the plaintiff, and yourself come to this counfry from England, and where did you first reside thereafter?

Same objection as above.

We came together to this country about 1830, and we all first went to reside at Buffalo, in New York State.

Question 9. Is your father now living; if not, when and where did he die? State as near as you can recollect.

Answer. My father is dead; he died in Buffalo not a great while after we got there; I don't recollect the year.

Question 10. State whether or not the plaintiff, John Stainthorp, thereafter continued his residence at Buffalo up to the time he went to New York city to reside; and state whether or not he, at any time prior to going to New York, resided for any length of time in the province of Canada.

Objected to as irrelevant and immaterial, and also because the expression "for any length of time" is indefinite and uncertain, and also because the question is otherwise indefinite and uncertain.

Answer. He did not continue his residence at Buffalo until he went to New York for all the time. He was doing business in the province of Canada for a short time, but he at the same time carried on
163 his business in Buffalo.

Question 11. Where else, after he came to this country, did he reside before going to New York to reside?

Answer. He resided in the State of Ohio before he went into business for himself in Buffalo.

Question 12. Where in Ohio did he reside?

Answer. I can't tell where he resided, but I saw him in Cleveland once. I knew he was there, and called and saw him. I don't know what he was doing there.

Question 13. About what time did your brother, the plaintiff, commence business on his own account and behalf at the city of Buffalo, New York State?

Answer. It must have been somewhere about the year 1836, or 1837, or 1838. I can't tell the year.

Question 14. What was the business in which he so engaged himself?

Answer. The soap and candle business.

Question 15. Did he afterwards remove to the city of New York; and if so, what business did he then engage in?

Answer. He did remove to New York, and I saw him there several times, and he was always engaged in the manufacture of candle machines. I resided there about seven months, and he was carrying on business there all that time in making candle machines.

Question 16. Do you know where the plaintiff Stainthorp now is? and if so, state.

Answer. Well, I have understood he was in England.

Question 17. Has the plaintiff Seguine, or his counsel, Mr. Gifford, or his counsel, Mr. Andrus, within the last year written you any letter or letters concerning this suit?

Answer. I received a letter last night from Seguine, as I suppose; it was signed Stephen Seguine, dated in New York. I did not notice the post-mark, and have not got it with me. I have had no other from either of these parties except this one.

On cross-examination by plaintiffs' counsel, the said witness further testifies:

Question 18. Are you now engaged in the manufacture of candles?

Answer. Yes, sir.

Question 19. How long have you been in that business, and where?

Answer. I have been engaged in it for some twenty-five or twenty-six years. I was in Buffalo part of the time, and then in Lockport, and then in New York city in the business.

164 Question 20. How long have you carried on the business in Lockport?

Answer. About twenty-four years.

Question 21. Do you employ machinery in the manufacture of candles ; and if so, what machinery ?

Objected to as new matter, and not a legitimate cross-examination of the witness.

Answer. I do employ machinery—Stainthorp machines.

Question 22. About how many ?

Objected to as above.

Answer. Two machines.

Question 23. How long have you had those machines in use, in the manufacture of candles ?

Same objection as above, and that the witness was not interrogated in his direct examination on that subject.

Defendant's counsel here gives notice to complainants' counsel that if he desires to avail himself of any testimony from this witness, (he being a brother of one of the plaintiffs,) upon the question of utility of the Stainthorp machines in suit, plaintiff must make witness his witness for that purpose, and examine him upon that subject, upon notice given to the defendant as prescribed by the rules of this court ; that defendant's counsel has not in any manner whatever examined the witness upon the question of utility of plaintiffs' machine in suit.

Answer. The machines I have got now I have had between three and four years—one a little under three years, the other about four years ; may be more.

Question 24. Do you keep those machines in use most of the time in the manufacture of candles ?

Same objection and same notice here repeated.

Answer. Yes, sir.

Question 25. Of whom did you procure these machines ?

Same objection and notice repeated.

Answer. From Stainthorp & Co., of New York.

Question 26. State whether these machines work well, and give good satisfaction.

Same objection and notice here repeated.

Answer. They work first-rate, and give good satisfaction.

Question 27. Do you know how old your brother, one of the complainants in this suit, was when he came to this country ?

Answer. I can't exactly tell.

Question 28. Can you tell whether he was over or under
165 twenty-one years of age at the time he came to this country ?

Objected to as immaterial.

Answer. He was under twenty-one years, as I think.

Question 29. Do you know about what time he removed to New York ?

Answer. I think it must have been in the year 1856 or 1857. I can't tell in what year it was.

Question 30. Were you engaged in the manufacture or use of Stainthorp's candle machines during the time you was in New York ?

Same objection and same notice above given here repeated.

Answer. Yes, sir. We used Stainthorp's machine there in New York. We had six of them.

Question 31. Who do you mean by "we" in the last answer?

Answer. I mean the firm of G. & J. F. Stainthorp.

Question 32. Did your firm use these six Stainthorp machines in New York in the manufacture of candles?

Same objection and same notice above given here repeated.

Answer. We did.

Question 33. State whether or not they worked well, and gave good satisfaction.

Same objection and same notice above given here repeated.

Answer. They were first-rate machines, and gave good satisfaction.

Question 34. Can you state about what year it was when your firm used these six machines in New York?

Same objection and notice above repeated.

Answer. It was in the fall of 1860 we commenced, as I believe.

Question 35. Do you know whether your brother, one of the plaintiffs in this suit, was ever naturalized in this country or not?

Answer. I have heard him say he was.

The answer to the above question is objected to—1st, as not responsive to the question; and 2d, as hearsay.

Question 36. State if you have any personal knowledge on the subject.

Answer. All the personal knowledge I have on that subject is that he was voting, his vote was challenged, and he swore it in.

On redirect examination witness testified:

166 Question 37. Will you now carefully examine the letter which you, on your direct examination, say you received from New York city, and being dated at New York, and signed S. or Stephen Seguine, and after such examination will you return and testify before this examiner, in equity, as to whether or not you will produce such letter in evidence on this examination, and thereafter sign this deposition?

Objected to, as the matter inquired of is not pertinent to this examination, or to any of the issues of this case, and also because it does not appear that this witness has possession any letter received from Mr. Seguine, or from any other person authorized to write the letter for Mr. Seguine, and also because the letter referred to, if produced, would not be legitimate evidence in this case.

Answer. I will.

Recess to 2 p. m.

At 2 p. m. the examination proceeds.

Question 38. Have you, since your answer to the last question, examined the letter referred to in that answer; and if so will you now produce it for the examiner to file on this examination?

Objected to as last above.

Answer. I have, and will here produce it.

It is here produced and marked by examiner (No. 1,) with the envelope.

Question 39. What time was Mr. Andrus (who appears here as counsel for plaintiffs to-day) at your residence this morning?

Answer. About twenty minutes before you and Mr. Humiston were there, which was between eight and nine o'clock this morning.

Question 40. Did you have any conversation with Mr. Andrus at that time in relation to your brother John the plaintiff's citizenship in this country?

Answer. He asked me if I knew he was a citizen. I told him I believed he was. I can state how it was: There was but few words passed between us. It was very cold. I asked if I should make a fire. He said no; he was not going to stay but a few minutes; that he wanted to see me up to American House; that Mr. Humiston was going to examine some witnesses, and he wanted me there to tell him what I knew about the witnesses. I asked him who the witnesses were. He said he did not know, but he supposed they were hunting up witnesses. This is about all; but he wanted me to come up to the American about nine o'clock.

167 Question 41. In answer to question 35 you say, "I have heard him (meaning your brother, the plaintiff) say that he was naturalized in this country." When and where did you hear him say that, and upon what occasion?

Answer. This conversation took place in his factory at Buffalo. I could not tell the date or year. There was some one came in and wanted him to vote, and asked him if he was a citizen. He said he was, and went off to vote, as I supposed.

Question 42. Have you now stated in your last answer all that you heard your brother say about the matter inquired of in questions thirty-five and forty-one?

Answer. I have testified to having seen him vote there. I have stated all I heard him say at that time. The man came in to get him to vote.

Question 43. Have you ever, at any other time than the one which you have stated, heard the plaintiff Stainthorp say anything about his being a citizen of this country? If so, give the time, and place, and occasion.

Objected to.

Answer. I have heard him say, in his conversation on political subjects, repeatedly say that he was a citizen of this country. These conversations generally took place in his factory at Buffalo.

Question. When and where was the plaintiff Stainthorp naturalized in this country?

Objected to as an improper way to prove the naturalization referred to, and because assuming that the witness has knowledge as to when and where plaintiff Stainthorp was naturalized, when it does not appear that the witness has any knowledge as to when and where Stainthorp was naturalized.

Answer. I don't know.

Question 45. In your answer to question thirty-six, and in your answer to question forty-two, you state that the plaintiff Stainthorp was voting, and that you had seen him vote. When and where did you see him vote?

Answer. I can't tell you when, but I can tell you pretty near where. It was at or near Huff's hotel, on the lower part of Main street, Buffalo, N. Y.

Question 46. Was you at that time residing at Buffalo?

Answer. I can't say certain whether I was then living here or there.

Question 47. Did your brother John, the plaintiff, reside at
168 Buffalo at the time when he became twenty-one years of age? If not, where did he reside?

Answer. I can't tell you where—whether he lived in Ohio or Buffalo. When he became of age he lived in Ohio a short time.

Question 48. Where in Ohio did your brother, the plaintiff, reside at that time?

Objected to, as the witness has just stated that he did not know whether his brother, the plaintiff, resided in Ohio at the time he became of age or not; and because the term "at that time" used in the question is indefinite and does not show what particular time is meant.

Answer. I have already stated that he told me he was living in Ohio. He was in Cleveland at that time.

Question 49. What time?

Answer. I could not say what year it was in.

Question 50. Was he of age when you saw him in Cleveland?

Answer. I don't know.

Question 51. In your answer to question thirty-six, you state "they challenged his vote and he swore it in." Who challenged his vote; when, where, and at what election?

Answer. It would be impossible for me to remember when or where it was, it was so long since. It was somewhere in the first ward, Buffalo.

Question 52. In what year was this?

Objected to, as already answered as fully as witness is able.

Answer. It is so long since, it is impossible for me to answer.

Question 53. When, where, and at what time, if at any time, were you naturalized in this country?

Objected to as immaterial and irrelevant.

Answer. I shan't answer that question, as it has nothing whatever to do with the case.

Question 54. Was your brother, the plaintiff, residing at the place when and where you were naturalized?

Same objection as last above.

Answer. I don't think it necessary for me to answer that question?

Question 55. Do you refuse to answer that question?

Answer. I have already refused to answer it.

Cross-examination resumed by plaintiff's counsel; witness testifies:

Question 56. Do you mean to state that your brother, the plaintiff, resided at Cleveland, Ohio, or only that he told you that he resided somewhere in Ohio, without mentioning where?

169 Answer. I saw him there, and I supposed he was living there or somewhere in the State.

Question 57. Were the defendant and Mr. Norton, his counsel, at

your residence this morning, and did they procure your attendance here as a witness for the defendant?

Answer. Yes.

Question 58. Do you know in whose handwriting the letter referred to in your testimony, being signed with the name Stephen Seguine, is in, marked (No. 1)?

The letter put in evidence in connexion with this deposition, and marked (No. 1,) is in the words and figures following, to wit:

NEW YORK, *Dec.* 14, 1863.

GEORGE STAINTHORP, Esq.,—Dear Sir: I suppose you have heard we have sued Humiston again for infringing our patent. Mr. Gifford's associate, Mr. Andrus, who are our lawyers, will be at Lockport the latter part of this week to examine one of Humiston's witnesses. I have directed Mr. Andrus to call on you, and you will greatly oblige us if you will give Mr. Andrus all the information you can in reference to the witness, and any other information in relation to our patent suit, &c.

Yours, truly,
STEPHEN SEGUINE,
for Stainthorp & Co.

(No. 1.)
DEC. 17, 1863.

A. A. BOYCE,
U. S. Examiner.

Answer. No, I could not swear to it.

Question 59. Do you know in whose handwriting the address on the envelope is in?

Answer. No.

On re-re-examination by defendant's counsel witness testifies:

Question 60. Did the plaintiff Stainthorp ever, within your knowledge, move from the city of Buffalo to any other place prior to his going to the city of New York?

Objected to, as the witness has already stated what he knew about the residence of the plaintiff.

Answer. I have already stated that he went to Ohio before he went to New York.

Question 61. Have you any personal knowledge that the plaintiff Stainthorp ever removed from the city of Buffalo to any place in the State of Ohio prior to his going to the city of New York?

170 Objected to, as the witness has already several times stated what knowledge he had on the subject of plaintiff's removing to Ohio.

Answer. I answer that I have stated all I know about it.

G. STAINTHORP.

Subscribed and sworn before me.
DECEMBER 17, 1863.

A. A. BOYCE,
U. S. Examiner.

Lazarus B. Stainthorp, a witness produced by and on behalf of defendant, testifies and says:

Question 1. What is your name, age, residence, and occupation?

Answer. My name is Lazarus B. Stainthorp; my age is thirty-eight years last August; my occupation is manufacturer of soap and potash, and I have made candles; my residence is in Lockport, where I have resided since 1840, except for about two years, about 1849 and 1850, when I resided in Buffalo.

Question 2. Are you acquainted with the plaintiff, John Stainthorp; and if so, for about what length of time?

Answer. I am. He is my brother.

Question 3. Where was you born?

Answer. In England, I suppose.

Question 4. Are you older or younger than your brother, the plaintiff Stainthorp?

Answer. I am younger.

Question 5. Where was your brother John Stainthorp, the plaintiff, born?

Objected to, because the witness is evidently not qualified to state.

Answer. I suppose he was born in England—the same as I was; that is what my folks tell me.

Question 6. When, if at any time, did your father come to this country from England to reside? State the time as near as you recollect.

Answer. I have heard my mother and brother say it was about 1830; not knowing my father, as he died in Buffalo when I was quite young, and about three weeks after he came to this country, as I have heard my mother say.

The foregoing answer is objected to, so far as it is hearsay evidence.

Question 7. Are you the youngest of your father's family?

Answer. I am the youngest boy.

Question 8. Do you recollect your father?

171 I don't remember his countenance, but I remember of my seeing him, and the business he was engaged in.

Question 9. Is your mother yet alive; and if so, where does she reside; and if not, when and where did she die?

Answer. She is alive, and lives in Buffalo, in Sixth street, at No. 17.

Question 10. Has she continued to reside there from your father's death until the present time?

Answer. Yes, sir.

Question 11. Did your brother John, the plaintiff, after the death of your father, reside at Buffalo; and if so, for about what length of time? State, also, whether or not, previous to his removal to the city of New York, he resided in the province of Canada.

Answer. I don't know whether he lived in Canada or not, but he lived in Buffalo, as I remember, since I came to Lockport; he came to Buffalo from Lockport to reside during "cholera" year; I took him to the Niagara river frontier, and he went on into Canada; he told me he was going there.

Question 12. When was your brother, the plaintiff, married?

Answer. I could not tell you; he got his wife in Canada; she lived there.

Question 13. About what year was this?

Answer. It was the "cholera" year of 1852; this was the time I took him to the frontier; he was married before that time.

Question 14. State whether or not you know anything concerning the obtaining of a patent in Canada by your brother, the plaintiff, upon improvements in candle machines, or machinery for moulding candles; and if you do, state the same.

Objected to as irrelevant and immaterial.

Answer. No, I do not.

Question 15. When, if at any time, did your brother, the plaintiff, remove to New York from Buffalo?

Answer. I think it must be in 1855 or 1856 somewhere; I can't be positive as to the time.

Question 16. Did the plaintiff, Stainthorp, ever reside in any other place in this country than at Buffalo and New York, State of New York?

Objected to as immaterial and irrelevant to the issue in this case, and also because it does not appear that the witness knows concerning the point inquired of.

172 Answer. Not that I know of.

Question 17. Do you know where the plaintiff, Stainthorp, now is, or have you any information on that subject?

Answer. I heard he was in England, and I heard he was in France; I wrote him a letter, and I have not heard from him in answer; I wrote the letter to France, and I requested an answer.

Question 18. State whether or not you have overheard your brother, the plaintiff, speak concerning the obtaining of a patent in the province of Canada upon his machine for the manufacture of candles; and if so, state what you heard him say on that subject.

Objected to as irrelevant and immaterial.

Answer. I heard him say he was trying or going to try to get a patent in Canada on a candle machine; I presume this is the same kind; I mean the one my brother George is now using.

On cross-examination by plaintiff's counsel witness further testifies:

Question 19. You say in your direct examination that you have made candles; what means or apparatus did you use for that purpose?

Objected to as immaterial, and that the witness has not been examined on that subject in his direct examination.

Answer. I used the old-fashioned moulds and a machine I had of my own.

Question 20. Then you did not use the Stainthorp machine, did you?

Objected to for same reasons above given, and as new matter; and defendant's counsel here gives to plaintiff's counsel the same notice which was given on examination of witness George Stainthorp this day as to question of utility.

Answer. I never had one of the machines, and have never worked one to make candles; I have seen them.

Question 21. When did you see them?

Objected to for all the reasons above given, and the said notice is here again repeated.

Answer. I saw them at my brother George's; I saw them at Buffalo—not the same kind; those at Buffalo worked with pulleys.

Question 22. What were the pulleys used for?

Objected to for all the reasons above given, and said notice is here repeated as to the question of utility; and a similar notice is given, that this witness has not been offered or examined as an expert upon his direct examination, nor has he been interrogated in any
173 manner whatever as to the construction and operation of plaintiffs' machine in suit; and defendant's counsel here objects, that the motive for cross-examining this witness upon matters not inquired about on the direct examination of the witness is designed by plaintiffs' counsel in part to consume the stipulated time for taking the defendant's testimony, so as to prevent the examination of a large number of witnesses by defendant, of which plaintiffs' counsel has several times had notice, and partly because the plaintiffs' counsel desires to obtain testimony from this witness as to the utility, construction, and operation of plaintiffs' machine in suit, because the witness is defendant's witness, and because the witness is a brother to one of the plaintiffs.

Complainants' counsel disclaims any improper or illegal motive or purpose in the cross-examination of this witness or any other witness produced by the defendant; and he suggests, that if the defendant's counsel would avoid delay and secure ample time to put in all his testimony and get the cause ready for hearing, he can do so if he will avoid occupying so much time and space on the record in impugning the motives of complainants' counsel.

Defendant's counsel replies to the statement last made by complainants' counsel, and refers the court to the flagrant, wilful, or ignorant violation of the rules or law of evidence relative to the cross-examination of witnesses as the necessity for occupying so much time and space referred to by complainants' counsel.

Answer. To raise the candle out of the mould.

Question 23. Did the Stainthorp candle machine which you have seen in use work well and give good satisfaction?

Objected to as before.

Answer. They said they did; my brother George said they did; Mr. Harris also said they did.

Question 24. Did Mr. Harris use the machine which you saw in operation at Buffalo?

Objected to as above, for all the reasons above given.

Answer. Yes, sir, he did.

Question 25. Do you mean to be understood as stating in your direct examination that your brother, the plaintiff, did reside at any other place in the United States than in the cities of New York and Buffalo?

Answer. Not that I know of. I mean by this answer that

174 I knew of his residing in no other place other than the cities of Buffalo or New York.

L. B. STAINTHORP.

Sworn and subscribed to, before me, this 17th December, 1863.

A. A. BOYCE, *U. S. Examiner.*

The examination of further witness is heread journed, by consent of counsel, to Mansion House, in Buffalo, at 10 o'clock to-morrow morning. A. A. BOYCE, *U. S. Examiner.*

DECEMBER, 7, 1863.

FRIDAY, *Dec.* 18—10 o'clock a. m.

The said counsel and defendants, in person, appeared before me, at the Mansion House, in Buffalo, pursuant to adjournment yesterday; and defendant not being able to procure the attendance of witnesses by reason of their absence from home, and the said examination being now held open until 5 p. m., it is now here, by consent of counsel. adjourned to be continued at the Metropolitan Hotel, in New York city, on Tuesday next, the 22d inst., at 9½ a. m.

A. A. BOYCE, *U. S. Examiner.*

TUESDAY, *Dec.* 22—10 o'clock a. m.

At the Metropolitan Hotel, in New York city, examination proceeds in presence of the said counsel—Mr. Norton for defendant, and Mr. Andrus for complainants.

The defendant here calls as a witness Stephen Seguine, who, being duly sworn, testifies and says:

Question 1. What is your name, age, residence, and occupation; and how long have you resided there?

Answer. My name is Stephen Seguine; my age is 40 years; my residence is in Staten Island, in Richmond Co., N. Y State, where I have always resided since my birth; and my occupation is that of farmer, and I am, and have been for many years, engaged as a manufacturer of candle-moulding machines.

Question 2. Are you one of the plaintiffs in this suit?

Answer. Yes, sir.

Question 3. Where is plaintiffs' place of business, and what is that business?

Answer. It is 67 Warren st., New York city, where we are engaged in the manufacture of candle-moulding machines.

Question 4. Do you manufacture candle-moulding machines under letters patent; and if so, whose patent as to patentee, and
175 what is the date of the same?

Answer. We do manufacture candle-moulding machines under letters patent issued to John Stainthorp, one of the plaintiffs in this suit, dated, I believe, March 6, 1855.

Question 5. Who are the present assignees of that patent, if any one?

Objected to, as the record in the Patent Office is the best evidence of the fact inquired about.

Answer. I have no knowledge whether Mr. Stainthorp has assigned any interest in said patent to any one since the assignment to John W. Hunter and myself.

Question 6. What interest is now owned by the plaintiff Stainthorp in this patent of March 6, 1855?

Same objection as above, and because the witness has already stated that he has no knowledge of the assignment by Stainthorp of any interest in the patent other than above stated.

Answer. One-half, so far as I know.

Question 7. What interest, if any, has the plaintiff Stainthorp in your business firm of which you have above spoken, and what is the name of that firm?

Objected to as irrelevant and immaterial.

Answer. The name of the firm is Stainthorp & Co. Stainthorp has one-half interest in it.

Question 8. Where is the plaintiff Stainthorp?

Answer. Stainthorp I believe is now in Europe.

Question 9. How long has he been absent from this country; or rather, when did he leave this country for Europe, if at any time?

Answer. He left on the 26th of April, I think, in the year 1861, and he has been absent ever since, so far as I know.

Question 10. Has he communicated with you by letter or otherwise during his absence from this country; and if so, about how often?

Answer. I have received letters from him. For the first year and a half he was away I received letters from him every two or three months; since that time, up to the present, I have not received them so often.

Question 11. Does the plaintiff Stainthorp intend to return to this country; and if so, when?

Objected to, as, from the nature of the case, it would be impossible for the witness to say what is the intention of Stainthorp respecting the matter inquired about.

Answer. My impression is that he does intend to return to this country at an early day.

176 Question 12. Will he return to this country before the argument of this cause at the next term of this court, January 19, 1864?

Objected to, as the witness can only state that he has an impression on the subject of Stainthorp's return, but has not pretended to have any knowledge about it.

Answer. I cannot say.

Question 13. Have you any personal knowledge that he intends ever to return to this country?

Answer. I have not.

Question 14. Have you any present knowledge that he ever will return to this country, the dangers incident to travel by land and sea excepted, and in case he should not be prevented by illness or death otherwise?

Answer. I saw a letter from him to his wife, stating that he should return home very shortly; that is all the personal knowledge I have as to his return home.

Question 15. When and where was the letter referred to in your last answer dated, and was that letter in the handwriting of the plaintiff Stainthorp?

Answer. I think it was dated in London, some time in 1863, and I think in the month of November; did not examine the letter minutely, for the reason I had no doubt it was in the handwriting of John Stainthorp, one of the plaintiffs in this suit.

Question 16. Will you swear positively that said letter was in the handwriting of plaintiff Stainthorp'?

Answer. I would not, as the letter is not before me.

Question 17. Would you swear positively that said letter was in the handwriting of plaintiff Stainthorp, if such letter was now here before you?

Objected to.

Answer. I would not, neither would I swear positively to any person's handwriting.

Question 18. Then you do not know of your own knowledge who wrote said letter, do you?

Objected to as already sufficiently answered.

Answer. I can only say that the handwriting of the letter just referred to, in my opinion, resembles that of John Stainthorp.

Question 19. Question eighteen repeated, and the witness requested to answer yes or no.

Objected to by complainants' counsel, as the witness is not legally bound to answer the question in the way suggested in the last question, and because he has already definitely answered as to his present knowledge of the handwriting referred to.

177 Answer. I have stated before that I would not swear positively.

Question 20. Have you ever seen the plaintiff Stainthorp write, and are you acquainted with his handwriting?

Answer. I have frequently, and I think I am acquainted with his handwriting.

Question 21. Has the plaintiff Stainthorp any real estate in this country; and if so, where is it?

Answer. He owns a house and lot in Brooklyn, called the Eastern district. It is No. 43 South Fourth street. He resided there before he went to Europe, and his family now reside there.

Question 22. In what year did you become acquainted with the plaintiff Stainthorp, and in what year did he come to this city to commence business, and in what year was your business firm formed?

Answer. I think I became acquainted with him in the latter part of the year 1856, or the early part of the year 1857. I think that he came to this city to commence business in the early part of the year 1859. Our firm was formed, I think, in 1859.

Question 23. From what place did the plaintiff Stainthorp come when he came to New York at the time you state, if within your knowledge or information?

Answer. If you mean when he came to New York to reside, I cannot say, because he has never resided in New York city to my knowledge.

Question 24. I mean when he came to New York to go into business, in your present business firm name?

Answer. He came from the eastern district of Brooklyn, formerly Williamsburgh.

Question 25. When and from where did he go to Williamsburgh to reside, now known as the eastern district of Brooklyn?

Answer. He informed me that he came from the city of Buffalo, in this State, but I can't say when he came.

Question 26. Of what countryman or of what birth was the plaintiff Stainthorp, if within your information or knowledge?

Objected to so far as the question calls for hearsay evidence.

Answer. I have no personal knowledge. Mr. Stainthorp has told me that he was brought up in England. I never heard him say where he was born. I don't know where he was born.

Question 27. Was the plaintiff Stainthorp born in this country?

Answer. I don't know.

178 Question 28. Have you, since the formation of your copartnership of Stainthorp & Co., been engaged in the manufacture of candle-moulding machines under plaintiffs' patent of March 6, 1855—I mean your firm?

Answer. I think we have.

Question 29. Are you acquainted with the devices covered by the first and second claim, and the description relating thereto, of plaintiff's patent in suit?

Answer. I think I am.

Question 30. Have you any knowledge or information that the plaintiff Stainthorp, some time in the year 1855, procured letters patent upon improvement in machines for manufacture of candles or candle-moulding apparatus in the province of Canada?

Objected to as irrelevant and immaterial, whether or not the witness has any knowledge about the matter inquired of, and because the fact of his obtaining a patent in Canada, if material, can be better proved in some other way.

Answer. I don't know that he did obtain a patent in Canada.

Question 31. Has your firm ever made or sold candle machines to any person or persons in the province of Canada?

Answer. Not to my knowledge.

Question 32. Look at the drawings attached to defendant's exhibit (O,) and state whether or not these drawings represent stationary candle moulds, pistons, rack and tip bars, into which candles are ejected vertically in the manner substantially as patented to plaintiff Stainthorp in this country March 6, 1855, and on which patent this suit is brought.

Objected to because the question assumes that the witness is an expert as to what is legitimately covered and patented by the Stainthorp patent of March 6, 1855.

Answer. I want to state that I am not a mechanical expert, and cannot tell from the drawings how to construct a machine in exact accordance with the drawings.

Question 33. Question thirty-two repeated?

The same objection as to the last question is here repeated, and also that the drawings referred to are the best evidence as to what they contain.

Answer. I should think the stationary candle moulds and piston do resemble those contained in the Stainthorp patent.

179 Question 34. Have there ever been candle machines manufactured by your firm, which contained rack and tip bars constructed and operated like those on defendant's exhibit (K,) now shown you; and if so, when and about how many?

Objected to as irrelevant and immaterial to the issues in this case.

Answer. As I have before stated, I am not a mechanical expert. We have built candle-moulding machines with a rack and tip bar attached to it; I can't say whether they were substantially like this model shown me or not.

Question 35. Will you swear positively that there has ever been manufactured by your firm any candle machine or machines like defendant's exhibit (K,) or any part thereof in construction or operation?

Answer. In general terms they are like exhibit (K.)

Question 36. What do you mean by "general terms?"

Answer. They contain movable tip moulds attached to a piston in stationary moulds, with racks above to guide and hold the candles when they are ejected from the moulds. This is what I mean by general terms.

Question 37. Now will you swear positively that your firm ever manufactured a single machine which contained the rack, tip bar and clasps constructed and operated like those on defendant's exhibit (K) and described and claimed by the last claim of plaintiff's patent in suit?

Objected to, 1st, because the question assumes that the last claim of plaintiff's patent in suit is limited to the exact form of rack, tip bar and clasp shown in that model; 2d, because the question assumes that the description and claim referred to in the patent are identical in construction and operation with the rack, tip bar and clasp shown on that model, and because the question is irrelevant and immaterial to the issues in this case, and because the question limits the witness to the description in last claim of the patent.

Answer. We manufacture a rack with tip bar attached to it which is a part of the machine, but I cannot say that they are substantially the same as the one in the model shown me, and referred to in the question.

Question 38. Have your firm ever made and sold any candle machines with the rack and tip bar connected to the main part thereof by means of butts or hinge joints, so that the same could be moved by means thereof from a vertical to a horizontal position, or

180 upon an angle below such position, in the manner like those upon defendant's exhibit (K,) now shown to you?

Objected to as indefinite.

Answer. The racks that we have put upon our machines are not secured to the main machine by any hinge or joint—I mean permanently,

but they set on the machine on the stationary candle moulds, and can be moved and replaced at pleasure.

Question 31. After the candles are ejected from the vertical stationary moulds into these racks which you have described, what prevents the candles from returning to the moulds when the pistons are lowered therein?

Answer. The rack and tip bar secures and holds them when the pistons are lowered.

Question 40. Then this is done by the clamping of the candle by means of the clasp or tip bar which you have last above described, is it not?

Objected to, because the question assumes that the candles are clamped, whereas it does not appear so to be from the testimony of the witness.

Answer. I am not aware that the rack and tip bar which we put upon our machines clamp the candles in any manner. The candle is always loose in the rack, so that the candle can be always released without loosening or opening the rack.

Question 41. Now if the candles be not clamped in any manner by the rack and tip bar which you now make and put upon your candle machines, please explain how the candles are held while the candle-tip moulds are being drawn from the tips of the candles therein.

Objected to, because the question relates to the use of the machine in the manufacture of candles, and the witness has not been shown to have made candles by their use, and because irrelevant and immaterial.

Answer. When the candles are shoved up into the racks, they are usually shoved up above the tip bar—the racks at the time being opened; they are then closed, which brings the tip bar close to the tip mould, when the piston is lowered and the shoulder of the candle comes in contact with the tip bar; the candle remains then setting upon its shoulder, when the tip mould is withdrawn from the tip of the candle.

Question 42. For what purpose are the racks opened, and for what purpose are they closed, after the candles are ejected therein by the pistons, as stated by you in your last answer, and upon what, if upon anything, does this rack and tip bar close?

181 Answer. The racks are opened to give plenty of room for the candles to pass up into them. They are closed for the purpose of holding the candles over the moulds to centre the remaining candles; the tip bar closes on the shoulder of the candles.

Question 43. For what purpose does the tip bar close upon the shoulder of the candle?

Answer. To keep the candles in the rack.

Question 44. Does not the tip bar thus close for the purpose of holding the candles so that the candle-tip mould may be drawn from the tip of the candle, and at the same time centre the wick for the candle below?

Objected to, as this witness is not an expert in the manufacture or use of the machines referred to.

Answer. The tip bar is closed for the purpose of holding the can-

dle so that the tip mould may be lowered and leave the candle in the rack. The candle left in the rack centres the wick for the succeeding candle.

Question 45. Now, if the candle is loose in the rack as you have stated, and if the candles be not clamped as you have stated, please tell how the wick is centred in the mould below.

Objected to for reasons last stated.

Answer. I wish to be understood, when I stated that the candles were loose in the rack, that it was only loose in a perpendicular direction—that in a horizontal direction it was not loose.

Question 46. Were the candles held horizontally, firmly or loosely?

Answer. When we have the racks made for the machine, that is, to make a certain sized candle, we give the man who makes our racks a candle as a guide to make the racks by. His orders are to make the racks in such a manner that when closed they will prevent the candle from moving at the lower side of the rack, so that the candle will centre the wick perfectly over the moulds. The hole in the rack when closed at the lower side is a trifle larger than the candle.

Question 47. Defendant's counsel says he objects to the answer as not responsive to the question, and as evasive, and the question is again repeated, and the witness inquired of further as to whether he understands the question; and if not, to explain wherein.

Answer. I think I understand the question. The candles are held horizontally, but not so firmly but that they will move a trifle.

182 Question 48. What do you mean by the shoulder of a candle?

Answer. I mean by the shoulder of a candle, that portion of the tip that joins on the main body of the candle.

Question 49. This shoulder is formed by means of the upper part of the tip mould, is it not; and does not the shoulder closely remain in connexion with the upper part of the tip mould while and until the candle is formed into the open rack which you have described?

Answer. The tip of the candle, shoulder and all, is formed in the tip mould.

Question 50. That part of the candle upon which the tip bar is closed, as you have stated, is just above this shoulder which you have described, and also above the candle-tip mould, is it not?

Answer. No sir; it is not above.

Question 51. Where is it, then?

Answer. The tip bar closes on the shoulder of the candle.

Question 52. On what part of the shoulder does it close?

Answer. On that portion of the shoulder which joins the main part of the candle.

Question 53. Does this shoulder form any part of the candle?

Answer. It forms a portion of the tip which joins on the main body of the candle.

Question 54. Are these racks and tip bars which you have described on this examination as opening to receive the candle, and as closing upon the candle, such rack and tip bar as patented to the plaintiff Stainthorp, and such in construction and operation as appears in the drawings of the plaintiff's patent in suit, and as appears on defendant's exhibit (K) now shown you?

Objected to, as it does not appear that the witness is an expert as to the construction of patents, or as to what they legally include or cover, nor does it appear that he is an expert in the construction of machinery, and because it is the business of the court, and not of the witness, to determine what is legitimately within the scope and meaning of the patent referred to.

Defendant's counsel desires the following memorandum to be made: That F. C. Treadwell, jr., who has been examined some time since as an expert on the part and behalf of the plaintiffs, has twice appeared during this examination to-day, and the last time of which was after defendant's counsel had requested of him not to appear
183 upon the examination of defendant's witness. That twice during his last appearance, he has made private communications with complainants' counsel. That the examination of witnesses on the part of the defendant was invited to take place at Mr. Gifford's office, in this city. That defendant's counsel recognized the courtesy thus extended, but told plaintiffs' counsel that he preferred to have it at his hotel, so that the examination of witnesses would not be interrupted, and especially so by the continued appearance, counsel or advice of plaintiffs' expert witness, Mr. Treadwell; and defendant's counsel here requests that the said Treadwell will not appear hereafter during the examination of defendant's witness unless he appears at the request of plaintiffs and their counsel, as counsel duly qualified to practice in this court.

Complainants' counsel replies that he objects to the record being lumbered up with the foregoing statement of the defendant's counsel; and he also objects to needless consumption of time consumed therein. He also states in justification and explanation of Mr. Treadwell's being present, that he is and has been so present solely by request of the complainants' counsel; that said Treadwell has been examined in this suit, both on the part of the complainants and of the defendant; that the particular reason why he was requested to be present, was to enable him to familiarize himself with what was testified to by the defendant s witnesses, as it is possible that he may be further examined on the part of complainants as an expert in this case; that said Treadwell, it is true, has twice spoken to him privately to-day—once about sending word to his office by a boy who was up here, and once about some other matter, which complainants' counsel did not understand, as he was busy writing down testimony; that said Treadwell has in no way interfered with this examination, and has merely been a spectator here at the request of the complainants' counsel; that the reason which defendant's counsel here gives for not taking testimony at Mr. Gifford's office was, that so many parties were calling, and going in and out, that he thought it too much interrupted the examination; that nothing, so far as he remembers, was said in objection to Mr. Treadwell being present, or about his interrupting the examination; that the exhibits heretofore put in by the defendant have generally remained in the possession of his counsel, and no favorable opportunity is had by the complainants' witnesses to examine them, so that they can testify about them, except

on these examinations, or by going to the office of defendant's
1·4 counsel in Troy; and complainant's counsel here gives notice to the defendant and his counsel that he shall endeavor to procure the attendance of Mr. Treadwell on these examinations, for the purposes above stated; that if defendant's counsel objects to his being present, on the ground that the room in the hotel in which the testimony is taken is hired by him, and is his private property, and that he has a right to exclude therefrom any person whom he pleases, the complainants' counsel will object to the further taking of testimony in said room, and insists that the same shall be taken in some public room where he can have his expert witnesses present for the purposes above stated.

Defendant's counsel replied and says that this examination was adjourned from Buffalo to this place for the purpose of accommodating plaintiffs' counsel, and of accommodating and for facilitating the procurement of defendant's witnesses; that the defendant's room in this hotel is public, for the legitimate purposes of this suit; that defendant still objects to the attendance of plaintiffs' expert witness, Treadwell, during the examination of defendant's witnesses; that the exhibits filed in this case, by both plaintiffs and defendant, are held by respective counsel until the testimony upon both sides is closed by an agreement between defendant's counsel and Mr. Gifford; that plaintiffs' counsel now holds plaintiffs' exhibits under such agreement; that defendant's counsel now holds under that agreement defendant's exhibits; that if complainants' counsel desires such agreement, the defendant's counsel will hand over to the examiner in this case all of defendant's exhibits, several of which weigh between 300 and 500 pounds each; that such are now and always have been open to the inspection and examination of complainants' counsel, and the defendant's counsel here desires to know of complainants' counsel whether plaintiff has closed his testimony or not on their part and in their behalf.

Complainants' counsel here requests the examiner not to further proceed with the taking of testimony on the part of the defendant, and objects thereto unless his expert witness, Mr. Treadwell, can be present and inspect and examine such exhibits as the defendant shall put in evidence on this examination; and he here states that no longer ago than last night the defendant's counsel informed him, at his office, that he expected to prove to-day, by two witnesses, the existence of a machine for making candles like the Humiston
185 machine for the last sixteen years, and that he should introduce and prove in the case a model representing such machine, and he therefore requested said Treadwell to be present and see said model.

Defendant's counsel replies, he has no objection to Mr. Treadwell being present for that purpose; and, further, state that at the last term of the court, held at Albany, in October last, plaintiffs' counsel stated, in open court, that plaintiffs had closed their testimony, and given notice thereof to defendant's counsel; that plaintiffs' counsel then and there moved the trial of this cause; that they have there-

fore no further use for expert witnesses in this case. The plaintiffs' testimony can only be legitimately rebutting evidence.

Examination here adjourned to 9 o'clock to-morrow morning.

A. A. BOYCE, *U. S. Examiner.*

WEDNESDAY, *December* 23—9 o'clock p. m.

At Metropolitan Hotel, in New York city, examination continued in presence of Mr. Norton, counsel, and the defendant and Mr. Andrus, plaintiffs' counsel.

The defendant here produced as a witness Charles H. Whitfield, who being duly sworn testifies and says:

Question 1. What is your name, age, residence, and occupation; how long have you resided there?

Answer. My name is Charles H. Whitfield, my age is thirty-fou years next January; my residence is at 120 East 18th street, in New York city. I was born in New York city, and where I have always resided, and for the last five years at my present place of residence, and my occupation is that of a plumber and a candle-mould manufacturer in this city.

Question 2. How long have you been engaged in the business referred to in your last answer?

Answer. For about fourteen years.

Defendant's counsel here offers in evidence a candle-moulding apparatus, consisting of vertical stationary candle moulds, and also of candle-tip moulds in combination therewith, moved upwards vertically by means of a sliding platform or guide to which the same are attached; and also consisting of spools containing wicks for candles, which wicks pass vertically through the stationary candle moulds, and an apparatus by which the candles are suspended vertically above the said moulds, thereby centring the wick for the next set of candles below, (the said spools containing wick being located be-
186 low the movable platform,) and the said platform being moved upwards by means of a lever and cam in connexion therewith, and is here marked defendant's exhibit (AAA.)

Complainants' counsel here objects to the foregoing statement or any part thereof being taken or received as evidence in this cause; and he also objects to the reception of said model in evidence in this cause.

Defendant's counsel also offers in evidence a candle mould and a candle-tip mould, formed in the upper end of the said piston in combination with said candle mould, and which is here marked defendant's exhibit (BBB.)

Complainants' counsel also objects to the foregoing statements being taken or received as evidence in this cause, the same having been made by the defendant's counsel, and taken down by the examiner without any proof as to the matter alleged; and he also objects to the reception in evidence of the last-mentioned exhibit.

Defendant's counsel also offers in evidence a piston containing a candle-tip mould in one end thereof, and which is here marked as defendant's exhibit (CCC.)

Complainants' counsel here makes the same objection to this as last above.

Question 3. Look at the defendant's exhibit (AAA,) and state what the same represents, and when you first saw the invention and improvements thereby represented, and who is the inventor thereof, so far as you have knowledge.

Complainants' counsel here objects to any testimony of this witness going to show that the patentee mentioned in the patent on which this suit is brought was not the original and first inventor of the thing patented by him—no notice in the case or otherwise having been given to the complainants or their counsel that this witness possessed any prior knowledge thereof.

Answer. It represents a machine for making candles. I think I first saw a model in 1849. It represented the same thing, and it was a working model that I saw, and George B. Whitfield, my father, was the inventor, so far as I know. My father resides at No. 60 East Seventeenth street, in New York city, and has resided there for about fifteen years, and is now retired from business.

Question 4. In 1848 and 1849, and in 1858 and 1859, where was your father's place of business? Give street and No.

Answer. At 262 Water street, in this city. His business was that of plumber and candle-mould maker.

187 Question 5. Look at defendant's exhibit (AAA,) and state whether or not you find in that exhibit vertical stationary candle moulds.

Answer. I do find such.

Question 6. Look at the same exhibit, and state whether or not you find therein candle-tip moulds in combination with said vertical stationary candle moulds.

Answer. I do so find them.

Question 7. Look at same exhibit, and state whether or not such candle-tip moulds move vertically upward in said vertical stationary candle moulds; and if so, describe the means used for that purpose.

Answer. They do so move upwards, and the means thus employed is by a lever shoving the plate that the tips are attached to upwards. There is a cam on the end of the lever for that purpose.

Question 8. Look at same exhibit, and state whether or not the candle wick passes vertically upwards through the platform and candle tip-moulds and vertical stationary candle moulds which you have described?

Answer. They do so pass.

Question 9. When, by whom, and under whose instructions was this model, or machine, marked defendant's exhibit (AAA,) made?

Answer. It was made a day or two ago. The moulds were made by J. & C. Whitfield, and the wood work was made by our carpenter, under the direction of George B. Whitfield. The firm of J. & C. Whitfield is composed of myself and my uncle.

Question. You have stated upon this examination that about the year 1849 you saw a working model containing the invention and improvements of the exhibit (AAA.) Where and in whose posses-

sion did you see such model, and does this model correctly represent the invention and improvements contained in the model which you say you saw in 1849?

Objected to as leading and assuming.

Answer. I saw it at 262 Water street, in this city, in about 1849, in the possession of my father, George B. Whitfield. This model represents the same invention and improvement which I saw in the model of 1849, except the side of the tallow-box in the original model could be let down by a hinge, so as to clean off the surplus tallow above the candle moulds; that was all the difference.

Question 11. State whether or not you have been engaged in the manufacture of vertical stationary candle moulds and vertical candle-tip moulds, such as you have described in this exhibit (AAA;) and if so, for about what length of time?

188

Objected to as leading and suggestive.

Answer. We have made the moulds and tips for about ten or twelve years.

Question 12. State whether or not good and marketable candles can, in your judgment, be made by the invention and improvements which you say you find in this exhibit (AAA.)

Objected to, as it does not appear that the witness ever made or saw made a candle by the use of the alleged invention and improvements inquired about.

Answer. Yes, sir, they can be so made.

Question 13. State whether or not candles, when moulded in these vertical stationary candle moulds which you have described, are forced vertically upwards by means of the sliding plate or platform, and cam and lever which you have described.

Objected to.

Answer. They are so forced upwards.

Defendants here offer in evidence a letter, dated Philadelphia, February 5, 1858, addressed to "George B. Whitfield, esq., or James M. Whitfield, esq.," and which is as follows, to wit: "Gentlemen: Please permit Mr. Hunter or Mr. Stainthorp to inspect the model of the candle machine in your possession and on which an application was proposed, and oblige, Charles M. Keller," and which said letter is here marked as defendant's exhibit (DDD.)

Complainants' counsel objects to the reception in evidence of the last-named exhibit, as irrelevant and immaterial, and because the same has not been properly proved in this case.

Question 14. State whether or not the letter above offered in evidence was received at your place of business, and also where the same has been from that time until now?

Answer. It was received at our place of business about the time of its date, and has remained in our possession on file ever since, until Monday, the day before yesterday, when I handed it to Mr. Norton, counsel for defendant.

Question 15. State whether or not the model referred to in that letter was the model which you say you saw in your father's posses-

sion in 1849, and like defendant's exhibit (AAA,) with the exception you have named.

Answer. It was the same.

Question 16. Look at defendant's exhibit (Y) and defend-
189 ant's exhibit (CCC,) both being candle-tip moulds, and state the difference, if any, in the principle and purpose of the same.

Objected to.

Answer. There is no difference.

On cross-examination by complainants' counsel, the said witness further testifies:

Question 17. Do you know whether or not the model referred to in exhibit (DDD) was exhibited to Mr. Hunter or Mr. Stainthorp, pursuant to the request in the letter; and if it was, about what time was it so exhibited?

Answer. I think it was about that time, in February, 1858.

Question 18. Who exhibited the model?

Answer. That I can't answer; but whoever was present at our store showed it to the person or persons presenting the letter.

Question 19. Do you know for what purpose they wished to examine the model therein referred to?

Answer. I do not know.

Question 20. Do you not know that there was a suit pending about that time in Philadelphia, in relation to alleged infringements of candle-making machinery, between Stainthorp & Co. and Humiston?

Answer. I have heard there was.

Question 21. Do you not know that this alleged invention of George B. Whitfield, or a model said to represent it, was used in reference on that suit?

Answer. I did not, nor do not know it.

Question 22. Have you heretofore been examined or given testimony as a witness in any suit or other proceeding concerning this model or concerning the alleged invention of your father?

Answer. No, sir.

Question 23. Where is the model which you say you saw in possession of George B. Whitfield about the year 1849, and which was shown to either of the parties referred to in exhibit (DDD,) about February, 1858?

Answer. We lent that model to Charles M. Keller, and he has never returned it, and I don't know where it is; we have sent up to get it, and find it impossible to get it.

Question 24. About what time was the model lent to Mr. Keller, and who lent it?

Answer. I think it was George B. Whitfield lent it, about February, 1858.

Question 25. Have you seen it since?

190 Answer. No, sir.

Question 26. How does exhibit (AAA) correspond in the size and arrangement of its different parts with the model which you saw, and which was lent to Mr. Keller, as you have stated?

Answer. The arrangement is the same; the parts are the same;

the moulds were a little smaller in the other model, and made a smaller candle; these are eights; the others were tens, I think; this is all the difference; the principle is the same.

Question 27. What do you understand by the term principle, as used in your last answer?

Answer. The manner and mode of making the candles with a sliding tip, forcing the candle upwards.

Question 28. Where was the model which was lent to Mr. Keller, from the time you first saw it until it was lent to him?

Answer. In the possession of George B. Whitfield a portion of the time, at 262 Water street, New York; the balance of the time I don't know where it was.

Question 29. How long did it remain in the possession of Mr. Whitfield after you first saw it and before you ceased to know where it was?

Answer. It remained from the time he made it until Mr. Keller got it, I think.

Question 30. What, if anything, was being done with this model during the time it remained in the possession of Mr. Whitfield, as you have stated, and in what room or apartment was it kept?

Answer. Nothing was done with it to my knowledge; it was kept on a shelf in our office.

Question 31. Give the name or names of any person or persons who saw this model prior to the year 1855, and state where such person or persons now reside.

Answer. That I can't do; there might have been fifty persons seen it whose names I can't give; it was in our office.

Question 32. Are you able to give the name of a single person who saw it, other than your father and yourself, prior to the year 1855?

Answer. Yes; James Whitfield saw it.

Question 33. Are you able to give the name of any other person who you know saw this model prior to 1855?

Answer. No, I can't think of any other one at present; my father can tell you all about it.

191 Question 34. When did James Whitfield see it?

Answer. About 1849, when his brother was making it.

Question 35. Was your father present at this examination this morning?

Answer. No. He was here present in the room, but went out by request.

Question 36. Was he requested to be out longer than during your examination?

Answer. I think not.

Question 37. Have you used candle machines in the manufacture of candles?

Answer. I have made candles in moulds—not to any extent, however.

Question 38. Were they made by way of experiment?

Answer. Yes, they were.

Question 39. You have stated that your firm manufacture candle

moulds as a part of their business. What do they do with the moulds which they so manufacture ?

Answer. We sell them.

Question 40. Have you or your firm made or sold any other part of machinery for making candles than the moulds spoken of in your last answer ?

Answer. Yes. We have made wires to go over the top of the moulds, and scrapers and wicking wires.

Question 41. Can you state what these wires to go over the top of the moulds are used for in the manufacture of candles ?

Answer. They are used to hold the wick in the old-fashioned stand, sometimes called the hand-stand.

Question 42. Have you or your firm ever made or sold a candle machine for the manufacture of candles ?

Answer. What do you call a candle machine ?

Counsel replies, I mean organized machine for making candles.

Answer. We have made and sold lots of the old hand-stand candle machines. We have made moulds with sliding tips, like those in exhibit (BBB.)

Question 43. Then you or your firm have never made or sold an organized candle machine, except the old hand-stand machine, have you ?

Answer. No, sir. We have sold the moulds, and the parties have framed them to suit themselves.

Question 44. What do you understand the barrels or rollers in the upper part of exhibit (AAA,) having cords wound round them and hooks attached to the pendant ends of the cords to be used for in that model ?

192 Answer. They are used to draw the candle after being forced up in the mould, and to centre the wick for refilling.

Question 45. About what is the length of the candle moulds in the model which you say was loaned to Mr. Keller ?

Answer. About eight or ten inches long. I can't tell exactly.

Question 46. About what was the length of the tip moulds in that model, which was above the platform into which they were fastened, and how were they fastened on the platform ?

Answer. They are, as I should judge, about an inch or an inch and a half above the platform, and in that model there was a tin or other metal tube went through the platform, and fastened underneath by a ferule.

Question 47. Was this fastening solid ?

Answer. Yes, sir ; the ferule was soldered to the tubing.

Question 48. If the tip moulds in this model were only about an inch or an inch and a half above the platform into which they were fastened, as you have stated, when the platform containing them was raised, about what distance did the upper part of the tip mould enter the stationary candle moulds in the model you saw about 1849, and which was lent to Mr. Keller ?

Answer. About the same distance ; from an inch to an inch and a half.

Question 49. Do you mean that the candle in these stationary moulds would be lifted more than from an inch to an inch and a half by the use of the same cam, platform, and tip moulds?

Answer. I mean they would not be lifted any more than that; half an inch would be sufficient.

Question 50. Sufficient for what?

Answer. Sufficient to make good candles in our moulds. I mean the candle moulds we manufacture. In some moulds it would not be sufficient.

Question 51. Do you mean in your answer to the forty-ninth interrogatory that lifting the candles an inch or an inch and a half, or even half an inch, would be sufficient to pop the candles so that they could be drawn out?

Objected to, as to the word pop is immaterial and irrelevant, the witness not having used the term during this examination.

Answer. Yes, sir; I do.

193 Question 52. How are they drawn out after being popped?

Answer. By means of a roller in the upper part of the frame.

Question 53. In model (AAA) I see that there are two rollers in the upper part of the frame, and that there are cords wound round each of them, having small hooks attached at the pendant ends; you will state whether this arrangement in this model is the same as it was in the model lent Mr. Keller, and which you saw about 1849.

Answer. I think it is the same.

Question 54. State what the hooks on the ends of these pendant cords were for—that is, for what purpose were they to be used?

Answer. They are intended to draw the first candle made, or to start the machine.

Question 55. Describe the operation of drawing the candle out of the moulds.

Answer. In that model they were to be drawn by the roller above having cords wound around them, the hooks being attached to the wicks of the first candles.

Question 56. After the first candles had been withdrawn from the moulds, as you have stated, what was next to be done in the operation of making candles?

Answer. Refill the moulds with tallow, leaving the candles suspended above.

Question 57. What, if anything, was to be done with the candles suspended above, before drawing out the second set from the moulds?

Answer. There was nothing done with them. They were left suspended; but each filling the candles were drawn up out of the way so as to refill the moulds again.

Question 58. How was the second set of candles to be drawn out of the moulds?

Answer. In the same manner as the first.

Question 59. How many sets of candles of the ordinary length for use could be drawn out of the moulds in the way you have stated, in the model which you saw?

Answer. In the model there could not be more than two or three, I suppose ; about the same as in that model (AAA.)

Question 60. Would not the number of sets of candles to be drawn out of the moulds, as you have stated, be limited, at least by the strength of the wick which held them ?

Answer. I suppose it would, in a measure.

194 Question 61. Do you think any more sets of candles would be drawn out of the moulds, in the way you have stated, than the strength of the wick would allow ?

Answer. No, sir, I don't think they could.

Question 62. When all the sets of candles have been withdrawn from the moulds, what was then to be done with the candles ?

Answer. They were to be cut off and packed away in boxes.

Question 63. What was next to be done with the upper ends of the wicking passing through the candle moulds ?

Answer. They were to be refastened to the hooks above.

On re-examination by defendant's counsel, witness testifies further :

Question 64. On your cross-examination, you have used the term "popped." What do you mean by that term, and how is that operation performed ?

Objected to, because the question assumes that it is performed in one way, whereas there may be several ways of doing it.

Answer. I mean after the candles have been sufficiently cooled and the shrinkage of the candle has taken place ; it is done by the pressing of the candle down by the thumb, which loosens it from the mould.

Question 65. Would you consider, then, the forcing of the candles vertically upwards in stationary candle moulds by means of candle-tip moulds popping the candles ?

Answer. No, sir.

Question 66. In your answer to questions 46 and 47, you refer to tubing passing through the movable platform to which the candle-tip moulds are secured, as you have testified. Please state how the candle-tip mould was secured or fastened to the said tubing, if at all.

Answer. In that mould the tip was soldered on to the tube.

Question 67. How are they secured or connected in defendant's exhibit (AAA,) and also in defendant's exhibit (BBB)—I mean the tube and the candle-tip mould ?

Answer. They are cast in one piece, the tube and tip mould.

Question 68. How is this tube, which you have described in your cross-examination, secured to the movable platform which you have described on your direct examination ?

195 Answer. It is secured by a button-washer or nut underneath.

Question 69. Could any number of vertical stationary candle moulds and of candle-tip moulds, which you have described, be constructed and used successfully like defendant's exhibit (AAA.) for the purpose of manufacturing candles at one time, and operation of the movable platform with candle-tip moulds therewith, constructed in the manner you have described ?

Objected to.

Answer. Yes, sir.

On re-cross-examination by complainants' counsel, witness testifies:

Question 70. What number of candles have you ever seen made in a machine like the model which your father showed you in 1849?

Objected to as immaterial whether witness has ever seen any candles in his father's machine referred to.

Answer. I have seen him make, I suppose, fifty candles, six or eight at a time, in the small model we had then.

Question 71. Is this all you have seen made?

Same objection as above.

Answer. Yes, that is all.

Question 72. Then you never saw a candle machine which was made like that model, did you?

Same objection.

Answer. None, except that model.

Question 73. In your redirect examination you were asked whether you would consider the forcing of candles vertically upwards in stationary candle moulds by means of candle-tip moulds, "popping" the candle, to which you reply that you would not. Would you consider that the device in your father's model for raising the candles an inch or so from the bottom of the moulds was for loosening and starting the candles so that they might be drawn out in the way you have stated?

Answer. It was intended to force them up. They can't be forced up unless they are loosened.

Question 74. Why would forcing the candles up a half an inch from the bottom of the moulds be sufficient?

Answer. It would be sufficient to make good candles.

On re-redirect examination witness testifies:

Question 75. Were the candles which you say you saw your father make by the model of 1849 good marketable candles, and in what year were those candles made by that model?

196 Answer. They were good candles, and perfectly marketable, and were made about 1849, and in this model of 1849.

Question 76. Give the name or names of any person or persons who bought those candles, or any of them.

Answer. There were none sold.

Question 77. What were they made for?

Answer. They were made to try the model.

CHAS. H. WHITFIELD.

Subscribed and sworn before me.

A. A. BOYCE,
U. S. Examiner.

Recess to 3 p. m.

At 3 p. m. examination continues as above.

Defendant here produces as a witness James Hoffman, who, being duly sworn, testifies and says:

Question 1. What is your name, age, occupation, and residence, and how long have you resided there?

Answer. My name is James Hoffman; my age is thirty-eight years; my occupation is that of a soap and candle maker; and I reside in Easton, Pennsylvania, and have lived there for eleven years last past.

Question 2. State about how long you have been engaged in the business referred to in your last answer.

Answer. For upwards of twenty years.

Question 3. Have you made candles by machinery; and if so, for about what length of time, and by what machines?

Answer. I have, for over a year last past, by machines called Humiston machines, and also by Stainthorp's.

Question 4. Of whom did you purchase the Stainthorp machine referred to in your last answer?

Answer. From a company acting under the cognomen of Stainthorp & Co. residing at 67 Warren street, in New York city.

Question 5. Were the machines purchased by you of said Stainthorp & Co. put in use by you at your manufactory at Easton, Pennsylvania?

Answer. Yes, sir.

Question 6. How did these machines work as to the manufacture of candles in and by them?

Answer. They worked badly; they broke the tips of the candles.

Question 7. How much would you be willing to give for one of said Stainthorp & Co.'s candle machines, for the purpose of manufacturing candles?

197 Answer. Nothing.

Question 8. Would you, under any circumstances whatever, have one of said Stainthorp & Co.'s candle machines in your manufactory, for any purpose whatever?

Answer. No, sir.

Question 9. How many such machines did you so purchase?

Answer. Two.

Question 10. After you became convinced that those machines were entirely worthless for the purpose of making candles in and thereby, what did you do with them?

Answer. I sent them back to Stainthorp & Co., at New York.

Question 11. After you so sent them back did they receive those machines, so far as you know, personally, or otherwise?

Answer. I received no indications that they ever received them. I packed them up in boxes as I received them, directed "Stainthorp & Co., 67 Warren street, New York."

Question 12. Are you personally acquainted with the defendant, Humiston?

Answer. No, sir.

Question 13. You say you have the Humiston candle machine in use at your manufactory at Easton, Pennsylvania. Please state of whom you purchased them, and when you purchased, and why you purchased them.

Answer. I purchased them of Willis Humiston, of Troy, N. Y., from their good reputation, which I heard from others, and had seen them in operation in candle factory.

Question 14. How does the said Humiston machine work as to the manufacture of marketable candles?

Answer. Excellently.

Question. Does it for that purpose give good satisfaction to you and to others, so far as you know?

Answer. I have heard said and think there can be no improvement in the said Humiston machine.

Question 16. State whether or not the machine sent to you by said Stainthorp & Co., as you have stated, contained a rack and tip bar hinge, constructed and operated like that now shown to you upon defendant's exhibit (K.)

Answer. It was nothing like this whatever.

On cross-examination by complainants' counsel witness testifies:

Question 17. What occasioned the tips of the candles to break in the Stainthorp machines?

198 Answer. So far as I could observe, the pistons did not give away to the movement of the candle; so many of the pistons would remain stiff at the return of the crank that I generally found some half a dozen or more of the tips broken at each filling.

Question 18. How many pistons and moulds were there in each of these two Stainthorp machines.

Answer. Ninety-six in each machine.

Question 19. About how many of these pistons would remain stiff at the return of the crank so as to cause breakage of the tips of the candles?

Answer. I found a half dozen or more candles broke in each machine.

Question 20. And this, you think, was caused by some of the pistons remaining stiff at the return of the crank, as you have stated?

Answer. The fact of the candle breaking I know to be so; but as to the cause, I guess.

Question 21. You think you have stated the cause correctly, do you not?

Answer. I guessed at the cause, but the fact is as I have stated.

Question 22. Now you will please state what caused the tips of the candles to break, as you have stated.

Answer. I judge, guess, or suppose the cause to be as I have stated. I thought it was from the stiffness of the cylinder; there is no joint between the top and bottom.

Question 23. What do you mean by the term cylinder, as used in your last answer?

Answer. Piston would be more correct, and I mean that by the term cylinder.

Question 24. You had ninety-six pistons on each of these machines, did you not, each of which pistons were equally stiff; now, how could the breakage of the tips of the candles in some half dozen candles be occasioned by the stiffness of the pistons, when the other tips of the candles were not broken by pistons equally stiff?

Objected to on the ground that the witness has already testified on his cross-examination that he did not know the cause of the breaking

of the tips of the candles, and only knew the fact of such breakage at each operation of the machine.

Answer. I might not have stated the proper cause; I only judged that it was the stiffness which occasioned the breakage.

Question 25. Are you a practical candle manufacturer by the use of machinery?

199 Answer. Yes, sir.

Question 26. How long have you used machinery in the manufacture of candles?

Answer. For a year past.

Question 27. When did you procure the two Stainthorp machines referred to?

Answer. In 1859, I think; I am not certain.

Question 28. What use, if any, did you make of them before about a year past?

Answer. I never made any use of those. I had them only for about two or three weeks.

Question 29. You say that you procured these Stainthorp machines in about 1858 or 1859, and that you did not commence making candles by machinery until about a year past. State what use, if any, was made by you of these machines between 1858 or 1859 and the time when you commenced making candles by machinery, as you have stated.

Answer. I sent them back three or four weeks after I got them, as I have before stated.

Question 30. Did you procure these two machines of Stainthorp & Co. personally?

Answer. I did, sir.

Question 31. Did you have any person to examine these machines, or either of them, to ascertain what was the occasion of some of the tips of the candles being broken, as you have stated?

Objected to as wholly immaterial.

Answer. I thought it unnecessary.

Question 32. What difference, if any, do you find in the construction of the Humiston machine which you now have in use, and the construction of the Stainthorp machines which you have testified to?

Objected to, first, as a new matter, and not a legitimate cross-examination of the witness; second, witness was not introduced as an expert as to the construction of either the Stainthorp or Humiston machine; and third, witness was only introduced as a practical candle-maker upon the utility or non-utility of the Stainthorp machine in suit, and was only examined on that subject on the direct examination.

Answer. The differences are numerous. I haven't technical knowledge enough to explain it explicitly. One difference is, the fact that Humiston's machine has a movable joint about three inches from the tip, attached to the piston. This is not the case in the Stainthorp machine. There is a difference in the construction of the rack.

200 The holes that receive the candle are not made the size of the candle for the purpose of holding it in the Stainthorp machine, but depend upon a leather that was along the bottom of the holes for

the candles to rest upon. The pressure of the candle on the leather is injurious to the appearance and general style of the candle—in fact, it often breaks the candle, especially if there is any foreign substance attached to the wick passing through the tube. These I take to be the main differences. The whole construction of the machine is different to a certain extent.

Question 33. Do the Humiston machines which you have in use employ in them stationary candle moulds, having in these moulds pistons with tip moulds at their upper ends?

Same objections as above given, and further objection, that the witness has already answered as to his knowledge of the differences between these machines.

Answer. Yes, sir.

Question 34. Does the tip of the candle, when formed, rest in this tip mould after being formed by it, and are the candles then thrown out of the stationary mould in a vertical direction in the Humiston machines which you have in use?

Same objection.

Answer. Yes, sir.

Question 35. How many Humiston machines have you in use?

Answer. Six.

Question 36. Have you ever procured a license to use candle-moulding machines under the patent granted to John Stainthorp, and dated the 6th day of March, 1855?

Answer. Of course not. I don't use his machines.

Question 37. Have you procured a license from any one to use the six machines purchased by you from Humiston?

Answer. I have procured leave to use them, but not written license. Mr. Stainthorp informed me by letter that the right to use the machines went with the purchase of the machines.

Question 38. What machines do you refer to in your last answer concerning which you were informed that the purchase of the machine carried with it a right to use them.

Answer. The Humiston machines which I now have in use.

Question 39. Who so informed you by letter?

Answer. Mr. Humiston.

201 Question 40. Then, in your answer to the thirty-seventh interrogatory, you meant Mr. Humiston instead of Mr. Stainthorp, did you not?

Answer. I meant Humiston.

On redirect examination witness further testifies:

Question 41. In answer to question 24, and also upon your direct examination, you speak of the tips of the candles in each of the said Stainthorp machines breaking in and by the pistons. Did the candles so break in the same pistons during the different operations of the machine, or would they sometimes so break in some and then in others of said pistons alternately?

Objected to as leading and suggestive.

Answer. They would so break. They would break in different

pistons according to the position which the piston assumed at different times in its return.

JAMES HOFFMAN.

Sworn and subscribed before me,

A. A. BOYEE, *United States Examiner.*

The defendant here produces as a witness GEORGE B. WHITFIELD, who, being duly sworn, testifies and says:

Question 1. What is your name, age, occupation, and residence, and how long have you resided there?

Answer. My name is George B. Whitfield; my age is 61 years; my residence is No. 60 Seventeenth street, New York city, and I am now retired from business; my former occupation was that of plumber and pewterer in this city. I went into business in 1826, and quitted in 1861.

Question 2. Did you, during the time you were in business as above stated, manufacture candle moulds for sale?

Answer. I did.

Question 3. Look at defendant's exhibit (AAA,) and state what that exhibit represents, if within your knowledge?

Complainants' counsel here objects to all testimony of this witness going to show that John Stainthorp, the patentee mentioned in the patent on which this suit was brought, was not the original and first inventor of the thing patented in and by said patent, as no notice in the answer or otherwise is given to the complainants or their solicitors that this witness had any prior knowledge of the things therein patented, or any of them.

Answer. It represents a machine for making candles.

202 Question 3. Do you find in that exhibit referred to in the last question vertical stationary candle moulds?

Answer. I do.

Question 4. State whether or not you find in the said exhibit candle-tip moulds, in combination with the vertical stationary moulds referred to in your last answer?

Answer. I do find such combination.

Question 5. State whether or not such candle-tip moulds are vertical, and move vertically upward in such vertical stationary candle moulds; and if so, describe the means or mechanical contrivance used for that purpose?

Answer. Yes, they are vertical, and move vertically upward in said moulds. The contrivance for moving the tip moulds up is by a lever.

Question 6. State whether or not such lever has upon its end cam or eccentric; and if so, what is its purpose?

Answer. It has a cam or eccentric for the purpose of forcing the tip moulds into the candle moulds, to force the candle up part of the way.

Question 7. State whether or not the said exhibit contains a movable plate or platform; and if so, state also whether or not the ver-

tical candle-tip moulds which you have described are secured thereto; and if so, state how they are secured, if at all?

Answer. They do contain a movable plate or platform. The vertical tip moulds are attached to it. This is arranged by a nut and washer, under the movable platform.

Question 8. State whether or not these vertical candle-tip moulds, and this movable plate or platform, which you have described, are moved upward at the same time and operation; and if so, by what means?

Answer. They are, and by the means of the lever, and for the purpose of forcing the candles upwards.

Question 9. State whether or not the candle wick passes through the centre of such vertical candle-tip moulds, and through the vertical stationary candle moulds from spools below this movable platform described by you?

Answer. It does. It passes through the centre of each of the vertical tip candle moulds.

Question 10. When and by whom was the invention and the improvements, and the combination of vertical stationary candle moulds and the vertical candle-tip moulds, described by you on this examination, and shown in and by defendant's exhibit (AAA) made? State the year and place, if within your knowledge.

203 Complainants' counsel here renews his objections to this question, and to any answer thereto heretofore made under the third interrogatory.

Answer. It was made by me in the latter end of 1848 or 1849, at 262 Water street, New York.

Question 12. Did you, prior to the year 1851, construct a machine, or working model, which contained the invention and the improvements in candle-moulding machines described by you on this examination, and shown in and by defendant's exhibit, (AAA;) and if so did you make candles in and thereby?

Answer. Yes, I did, and made candles in it. It was a working model, and was on too small a scale for manufacturing purposes.

Question 12. Is this model which you have referred to in your last answer the only candle-making machine which you constructed and operated prior to 1851?

Answer. Yes.

Question. 13. Have you at any time constructed any other machine for making candles like that which you made in 1848 or 1849; and if so, when?

Question objected to because it assumes that the witness made a machine for making candles in 1848 or 1849, when he has just stated that it was only a model.

Defendant's counsel denies the above, and says that the witness did state that he made in 1848 or 1849 a working model.

Answer. I made a model after 1848 or 1849. After I experimented with the first machine, the model that I had made was a *fac simile* to this exhibit (AAA) with the exception of this lever. I applied two wedges under this sliding platform for the same purpose that the lever

was intended for, to raise and lower the platform. One side of the tallow-box was connected with hinges to let the side fall down to get the chilled tallow off the tops of the moulds and out of the box; these moulds had a jacket or encasement around them for the purpose of chilling the tallow or substance in the moulds by means of ice-water or a jet of steam for heating the pipes.

Question 14. What has become of the working model which you say was made by your direction in 1848 or 1849?

Answer. It was lost, stolen, or destroyed, to the best of my knowledge.

Question 15. Was that working model ever publicly exhibited; and if so, when and where?

204 It was exhibited so far as this: It was in my office, 262 Water street, for some four or five years after the experiment was tried in 1849, and it was frequently shown to candle-makers, and I presume to candle-mould makers. I made no secret of it, and frequently pointed out the advantages of a machine of that kind in freeing and forcing the candle from the moulds.

Question 16. Look at defendant's exhibit (Y) and defendant's exhibit (CCC,) and state the difference, if any, in principle between the same as to the candle-tip mould and the central passage for the wick.

Answer. They are *fac simile* as regards the forming of the tip moulds, but the construction is somewhat different in the way of securing it. The tip mould in exhibit (CCC) is formed with a shoulder and screw on one end to secure it to the sliding plate or platform. The tip mould in exhibit (Y) is made to connect with a tube, apparently for the purpose of forcing it up into the mould or through the mould. If the tube is long enough you can force it through the mould; if not, you can't.

Question 17. Do I understand you to mean to be understood that the effect or operation in making the tip of the candle and in forcing the candle upward in the vertical stationary candle mould to be the same in these two exhibits of defendant's (Y) and (CCC)?

Objected to, as neither exhibit is shown to the witness in connexion with the candle moulds referred to, nor in connexion with any other device.

Answer. They are a *fac simile* intended for the same purpose.

Question 18. State whether or not there is any difference in the combination of candle mould and candle-tip mould in defendant's exhibit (BBB,) and in the combination of candle mould and candle-tip mould in defendant's exhibit (AA) now shown you.

Objected to by complainant's counsel, as there does not appear to be any combination of a tip mould and candle mould in defendant's exhibit (BBB,) except that a tip mould and what appears to be a candle mould are tied together with a string.

Answer. The difference is in the length of the tube or pipe to which this tip mould is connected. This is apparently the only difference.

Question 19. Look at defendant's exhibit (BBB) now shown you,

and state whether or not the candle-tip mould in that exhibit is connected with a tube or pipe; and if so, how.

205 Answer. It is connected in this way. They are all made in one. One is a long pipe, and the other is a short one.

Question 20. State in which exhibit you find the long pipe, and in which exhibit you find the short pipe referred to in your last answer.

Answer. In exhibit (BBB) I find the short pipe, and in exhibit (AA) I find the long pipe.

Question 21. Then the only difference you find is the length of the pipe described by you, is it not?

Answer. Yes.

Question 22. Is defendant's exhibit (BBB.) consisting of candle mould, candle-tip mould, and short tube connected therewith, as you have testified, the same device of vertical stationary candle mould and vertical candle-tip mould and short tube connected therewith found in defendant's exhibit (AAA.) and put in use by you by working model in 1848 or 1849, as you have testified?

Answer. They are the same.

Question 23. State whether or not, after you constructed and operated said working model in 1848 or 1849, as you have testified, you constructed a model of that working model; and if so, what became of it, and where is it, and when did you construct it, if so at all?

Answer. There was a model constructed; it might have been in 1850 or in 1851, or even in 1849. That model which I gave to Robert W. Lowber, and I employed him to obtain a patent for me, and to draw up for me a specification of what I claimed as my invention. Some twelve months afterwards he informed me that I could not procure a patent for my invention, on the account of it being an old thing—a sliding tip and endless wick. I can't say how long the model was in his possession—a year or two perhaps. I think I finally obtained the model from Mr. Keller, or through his office; that is, it was only a part of the model. It was divested of all the upper part or gear, as you may call it, for raising the candles from the moulds and spools underneath for containing the wick. I had possession of that model, as near as I can recollect, till 1855 or 1856; then I was requested, either by Mr. Keller or some one from his office, to bring the model and copy of what I claimed as my invention to his office, on corner Beekman and Nassau streets, in Whitlock's building, as I think. I went there, I can't exactly state the time, before a commissioner; I think he was from Philadelphia. With what was left of that machine I explained to the commissioner what I claimed

206 as my invention, and the utility of it. After a tedious examination, through the request of Mr. Keller, I left the model and copy of what I claimed with him, for a short period of time, as I understood. I called at Mr. Keller's office a number of times, and likewise sent orders for the model and copy—I think for the first, second, or third time I called or sent for it, and the result was they promised to hunt it up, but I never got it. That was the last I saw of the model or copy.

Question 24. Did you consider the invention and the improvement

which you have described on this examination as valuable and important for the purpose of making candles; and if so, could the same have been applied to the manufacture of candles in large quantities at one time and operation of the said machine?

Objected to, first, as no foundation is laid for the question, the witness not having been shown capable of judging on the point about which he is asked to give his opinion.

Answer. I considered it a very valuable invention; with a machine which I intended to construct after this mode of making candles, with one machine of this principle, I could make as many candles as in twenty frames of the old mode of making candles; I mean in the same length of time. I am somewhat familiar with the mode of making candles in the old way; I have seen them made, and have made them in the old way.

On cross-examination by plaintiff's counsel said witness further testifies as follows:

Question 25. You have heretofore been examined as a witness, have you not, in the case of John Stainthorp and others against Elkinton and Humiston, pending in the United States circuit court for the eastern district of Pennsylvania?

Answer. I was examined at Mr. Keller's office. I presume it might have been in that case. I have no recollection who were the plaintiffs or who were the defendants.

Question 26. Did you testify on that examination in relation to your alleged invention in candle machinery?

Objected to as wholly immaterial for any of the purposes of this suit.

Answer. I did.

Question 27. Was a copy of your specifications and claims of your alleged invention put in evidence on that examination?

Objection same as above given.

Answer. It was.

207 Question 28. Is it not stated in the claim of your specification, and did you not also state on your examination before referred, that the tip mould in your machine were only used to start the candles from the bottom of the moulds in which they were cast, and that the candles were afterwards drawn out of the moulds by mechanism placed above the candle moulds?

Objected to, 1st, as wholly immaterial for any of the purposes of this suit as to whether any such description was ever given; and, 2d, that the inventor and witness is not bound by any description made by a third party; and, 3d, because the witness has to-day under oath, and on this examination, described the machine in question; and, 4th, any description given as far back as 1849, or 1852, of this invention, made by a third party, cannot be competent evidence on the hearing of this case; and, 5th, if any such descriptions were given the original record is the best evidence if the court shall consider any such description as competent evidence in this cause; and, for further reason, that this is no part of a legitimate cross-examination of this

witness, he not having been inquired of on his direct examination concerning the matter inquired about.

Answer. I have no recollection of what I stated on that examination. I presume I might have so stated in that specification.

Question 29. How recently have you seen or examined a copy of that specification, printed or otherwise.

Objected to for all the reasons above given.

Answer. I saw what I presume to be a copy of that specification last night; it was printed in a book.

Question 30. Did not the same book also contain what purports to be a copy of your testimony given on the examination before referred to?

Objected to as above.

Answer. It might; if it did I did not see it.

Question 31. When did you get this book?

Same objection as above.

Answer. My son brought it to my house in 77th street, last night, with model (AAA.)

Question 32. By whose direction was this model and book brought to you, and for what purpose were they brought?

Same objection.

Answer. I can't say by whose direction the book was brought to me; the model was brought to my house by my direction, for the reason that it was not finished in time for me to see it at the shop or store.

208 Question 33. Had you not seen this book containing a copy of your specification before last evening?

Same objection as above.

Answer. I might have seen it yesterday at the office, 262 Water street.

Question 34. Did you not see it yesterday morning?

Same objection as above.

Answer. Yes, I did; my son showed it to me; he showed me the book, but I can't recollect much of what I read in it. I briefly read something in it for about 10 minutes.

Question 35. Who, if any one, had the book besides yourself?

Same objection.

Answer. I don't know; I presume my son saw it.

Question 36. Who made model (AAA)?

Answer. The moulds and tips were made by J. and C. Whitfield, and the wood-work by James Boge, in the rear of 262 Water street, carpenter shop; the arrangement of wick, strings, hooks, cords, were arranged by myself.

Question 37. Who directed James Boge how to do the wood-work?

Answer. The first direction was given by my son, I presume, but I don't know. I afterwards directed him how to make it.

Question 38. Is it not stated in your copy specification "that the tips are forced up by lever to start the candles in the moulds?"

Objected to for all the reasons above given, and for further reason that the witness has already testified that he has not read the speci-

fication inquired about, and that he does not recollect concerning any such description.

Complainants' counsel replies that the witness had not stated as last mentioned, and refers to record for proof.

Answer. I think, in the copy specification which I let Mr. Keller have, that I claimed a lever, wedges or screw to raise the platform to start the candles.

Question 39. Then these tip moulds were for the purpose of forming the tips of the candles and starting the candles from the bottom of the mould, were they not?

Answer. Starting or forcing the candle through the mould.

Question 40. What was about the length of the candle moulds in the working model which you had got up about 1848 or 1849?

Objected to as immaterial as to length of the mould.

Answer. About six or seven inches, as near as I can recollect.

209 Question 41. Might they not have been as long as eight or ten inches?

Answer. I don't think they were as long as ten inches; I think they averaged from six to eight inches.

Question 42. What was about the length of the tip moulds above the platform into which they were fastened, in the working model before referred to?

Same objection as last above.

Answer. From two to three inches.

Question 43. Do you mean to swear that the length of these tip moulds above the movable platform was as much as two inches?

Answer. I should think it was.

Question 44. Do you swear to it as a matter of fact?

Answer. I do.

Question 45. How far did the tops of these tip moulds extend up the stationary moulds when the platform was raised to the full capacity of this working model?

Answer. An inch and a half or two inches; that was when the platform was raised to its full extent. I think, in the working model which I constructed in 1849, the part of the tip moulds above the platform was a little longer than it is in exhibit (CCC)

Question 46. Would not the tip-moulds have answered the same purpose if they had not been as long as you have stated?

Objected to on the ground that the length of the tip mould inquired about is wholly immaterial for any of the purposes of this act.

Answer. It depends upon the temperature of the atmosphere whether you have them longer or shorter.

Question 47. Explain what you mean by your last answer.

Answer. In cold, freezing weather tallow shrinks and slides with greater ease than in mild or warmish weather.

Question 48. Do you require the tip moulds larger or shorter in cold, freezing weather?

Answer. Shorter.

Question 49. Were the tip moulds in your working model made for cold, freezing weather, or for warmer, milder weather?

Objected to as immaterial.

Answer. They were made for any weather that the tallow would chill or harden suitable for making candles. My machine did not require the lever to force the tip moulds the whole length of the candle moulds.

210 Question 50. Do you mean that your working machine did not require the tip moulds to be forced up the candle moulds the whole length of the distance between the top of the tip moulds and the top of the platform into which they were fastened?

Answer. I do.

Question 51. Why did it not require it?

Answer. I depended upon the pulleys to raise the candle out of the mould or moulds.

Question 52. Please explain briefly the mechanism which you used to draw the candles out of the mould.

Answer. It consisted of two rollers or drawers over the top of the moulds. These drawers or rollers had cords wound around them with one end hanging down, hooked into the wick.

Question 53. How much was it necessary to move or start the candles from the bottom of the moulds before they are drawn out from the moulds, as you have stated?

Answer. I have stated it would depend somewhat upon the temperature of the atmosphere. In cold weather they would require to be moved or slid less than in warm weather.

Question 54. The object, then, in sliding the candles by the pistons was to loosen them so that they could be easily drawn out of the moulds, was it not?

Answer. Yes, sir.

Question 55. Did you ever apply for or obtain a patent for your alleged invention in candle machines?

Answer. I applied through Robert W. Lowber, but never obtained one. I think he then lived in this city.

Question 56. Did you send to the Patent Office a model or drawings representing your alleged invention?

Answer. I gave Mr. Lowber the model. I can't say what he done. He was ordered to procure a patent for me, if it was patentable, and I paid him for his services.

Question 57. Why did you abandon this machine; or, in other words, why did you not manufacture and sell your machine?

Objected to: 1st, as immaterial; and, 2d, as there is no evidence in this case that this witness

Question withdrawn.

Question 58. If this machine, in your opinion, was a valuable machine, why did you not manufacture and sell it?

Answer. I could not procure a patent to secure me in protection of the invention, as I was advised by Mr. Lowber, and I did not try any further.

211 Question 59. You was then a man of some property and means, were you not?

Answer. Yes, sir, and am yet.

Question 60. Did you ever make any working machine or working model representing your alleged invention other than the one you have already mentioned?

Answer. I made none but the first working machine and the model I lent Mr. Keller, and the model then marked (AAA;) in the models you could have made candles—I mean in either of them.

Question 61. Did you ever make or see made candles in either of these three models? If so, state in which of them.

Answer. I did; in the first one that was made.

Question 62. For what purpose did you make candles in it?

Answer. To try and prove by the machine that candles could be made in it.

Question 63. How long did you use it?

Answer. One night for three hours or more.

Question 64. Is that all you used it?

Answer. That is all I used it; this was in 1848 or 1849.

Question 65. Was you then engaged in the manufacture and sale of the common hand-stand candle machines?

Answer. Yes, sir.

Question 66. How long did you continue to make and sell them?

Answer. I continued to do so until I quit business; this was in November, 1861.

On redirect examination by defendant's counsel witness testifies:

Question 67. Have you made and sold candle moulds and candle-tip moulds, like those in defendant's exhibits (AAA) and (BBB,) now shown you; and if so, during what years?

Answer. Yes; we have been making them for the last 5, 6, or 8 years, and have sold them for the purpose of making candles in; we sold them to Hall & Son, in this city, soap and candle makers, and they set them in their frames to suit themselves; I suppose hundreds of dozens we have sold to them; we have likewise sold them a sliding tip, which they applied to their old moulds by taking off the old stationary tip.

Question 68. If the tube which you on your examination say is connected to the candle-tip mould was of equal length with the candle mould, would not the candle in the mould then be forced upwards therein, and entirely from the vertical candle mould if deemed
212 best so to do?

Objected to.

Answer. Yes, it would.

Question 69. Then the length of the candle mould, or the length of the candle-tip mould and tube connected therewith, which you have described, are no essential or material condition with your invention described by you?

Objected to.

Answer. They are not.

Question 70. Which is the best description of your working model and model of the invention and improvements in candle-moulding machinery, shown by defendant's exhibit (AAA,) the description

which you have given thereof under oath on this examination, or any written or any printed description of the same made by a third party?

Objected to.

Answer. I presume the copy of the specification was the best written description; I am under the impression that the description which Lowber gave was the best description; I presume it is.

Question 71. Is the description which you have given on this examination, of your invention in candle-making machine of 1848 and 1849, a full and fair description of the construction thereof?

Answer. Yes, I suppose it is; it might have been drawn up by an abler counsellor, and might have secured a patent; I thought there was a lameness in the mode or manner of preparing that specification.

On re-cross-examination witness testifies:

Question 72. Did you notswear to the specification which was prepared for you by Mr. Lowber?

Objected to on the ground that the witness has nowhere, during this examination, been interrogated on that subject, and also that it is wholly immaterial whether he swore to that specification or not.

Answer. I think not.

Question 73. Of what use are the tubes, as you call them, which you say connected with the tip moulds in your machine?

Answer. To pass the wick through and to disconnect the candle from the moulds.

GEO. B. WHITFIELD.

Subscribed and sworn to before me.

A. A. BOYCE,
U. S. Examiner.

213 The further examination is hereby mutually agreed to be adjourned to Troy, to be continued on Saturday next, 26th instant, at 9 o'clock a. m., at the office of defendant's counsel, then and there to proceed before J. T. Lamport, esq., United States examiner.

A. A BOYCE, *United States Examiner.*

United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE
vs.
WILLIAM HUMISTON. } In equity.

TROY, NEW YORK, *December* 26, 1863.

Parties met pursuant to adjournment from New York, at M. P. Norton's office, Troy, New York. Mr. Andrus appeared as counsel for complainants, and Mr. M. P. Norton as counsel for defendant. Cyrus A. Sherwood was produced as a witness by and on behalf of defendant, and, being by me duly sworn, testified as follows:

Question 1. Have you heretofore been examined as an expert in this case; and if so, about when?

Answer. I have twice, in July and December of the present year.

Question 2. Have you examined defendant's exhibit (AAA,) marked by the United States examiner December 23, 1863; and if so, do you understand the construction, principle, and operation thereof?

Answer. I have examined the exhibit (AAA,) and I think I understand its principle, construction, and operation.

Question 3. State whether or not you find in said exhibit vertical stationary candle moulds.

Answer. I do find vertical stationary candle moulds.

Question 4. State whether or not you find in said exhibit vertical candle-tip moulds, in combination with the vertical stationary candle moulds referred to in your last answer.

Answer. I do find stationary candle-tip moulds in combination with vertical stationary candle moulds.

Question 5. With what are the candle-tip moulds stationary, as referred to in your last answer?

Answer. To the sliding bed-piece or platform.

214 Question 6. State whether or not you find in said exhibit a movable platform; and if so, describe the operation of the same, and its purpose, and describe also its location.

Answer. I find a movable platform directly under the lower end of the stationary candle moulds, operated by a lever, rounded at the end, for the purpose of moving the bed-piece upward about two inches, and by that operation starting the candles from the moulds a short distance.

Question 7. In your judgment, as an expert and practical mechanic, would candles in the vertical stationary moulds you have described be forced vertically upward in such moulds by means of the device which you have described; and if not, why not?

Answer. They would be forced vertically upward.

Question 8. You have stated, on your former examinations, that you are acquainted with and understand the construction, operation, and the principle of the Humiston machine, marked defendant's exhibit (H,) have you not?

Answer. I have.

Question 9. Look at defendant's exhibit (Y) and (CCC,) and state the difference, if any, between these exhibits so far as relates to the candle-tip moulds.

Answer. I find no difference as regards the tip moulds.

Question 10. Look at defendant's exhibit (BBB,) and state whether or not you find in that exhibit candle-tip mould in combination with a candle mould.

Answer. I have examined exhibit (BBB;) I find a candle-tip mould in combination with a candle mould, and I find these same devices in defendant's exhibit (AAA.)

Question. 11. Look at defendan's exhibit (AA,) and state whether or not you find in that exhibit candle-tip mould in combination with a candle mould; and state also whether you find these same devices in same combination in the Humiston candle machine, marked defendant's exhibit (H.)

Answer. I have examined exhibit (AA;) I find a candle-tip mould

in combination with a candle mould, and I also find the same combination in defendant's exhibit "H," the Humiston machine.

Question 12. State the difference, if any, between the candle-tip mould and the vertical stationary candle mould in defendant's exhibits (AAA) and (BBB,) and the candle-tip mould and vertical stationary candle-mould of defendant's exhibit (H) and (AA,) and also state the difference, if any, in the combination of these devices, and
215 also the purposes of the same in these several exhibits.

Answer. There is no difference between these devices (AAA,) (BBB,) and (H,) and (AA,) of the Humiston machine; the combinations are the same in all of them; their purpose is to start the candles from the stationary moulds in a vertical direction, and in this respect are the same.

Question 13. State whether or not, according to your best judgment as a practical mechanic, candles can be made in the vertically stationary moulds of defendant's exhibit (AAA,) and when sufficiently cool the same can be started and forced vertically upward therein at one operation of the movable platform which you have described.

Objected to by plaintiff's counsel, as this witness does not appear to be an expert in the manufacture of candles, nor does he appear to be particularly familiar therewith.

Answer. In my opinion candles could be made in defendant's exhibit (AAA,) and that they could be started from the stationary candle mould in a vertical direction by the operation of the lever upon the platform, as before described.

Defendant's counsel offers in evidence a candle-tip mould, formed in the upper end of a piston, it being such a device as is described in plaintiff's Stainthorp patent of March 6, 1855, and which is here marked defendant's exhibit (EEE.)

Plaintiff's counsel objects to the introduction in evidence of said exhibit in the way proposed, and also to the foregoing statement concerning the same.

Question 14. You have stated on your former examinations that you have read and that you understand plaintiff's patent in suit, have you not?

Answer. I have.

Question 15. Look at defendant's exhibit (EEE,) and state whether or not you find a device or devices like that, or substantially the same, in the said Stainthorp patent?

Answer. In my judgment it is the same.

Question 16. Do you find any such device or devices as that, in construction or principle, in the Humiston candle machine in suit?

Objected to by plaintiff's counsel, as this witness has already twice been fully examined in this suit as to the similarity or dissimilarity of the pistons or drive-rods and tip moulds connected therewith, in both the Humiston and Stainthorp candle machines,
216 and his further examination on that subject, after full direct cross-examination is entirely inexcusable, and designed or

adapted to unnecessarily consume time by repeatedly calling him, and repeatedly going over the same matters.

Defendant's counsel replies, and denies that this witness has been examined in this cause concerning this special exhibit (EEE,) and denies further that this witness is examined at this or any other time for the purpose of consuming time; and the defendant's counsel here states that he never yet has completed the full examination of this witness in this cause, and only at the former examination into the matter under consideration at such times; and further, that it is proper for the defendant, and that he has the right to produce this witness, or any other witness in this cause, as many times as he may deem best, in order to complete his or their full examination of all matters relating to this cause.

Complainants' counsel replies that he did not state that this witness had heretofore been examined concerning this special exhibit (EEE,) and therefore any denial thereof is inapt.

Answer. I do not find the same device in construction in the Humiston machine.

Question. In your judgment, state whether or not a machine for making candles like defendant's exhibit (AAA) could be extended to a capacity equal to that of the Humiston machine, and with good, satisfactory results, so far as moulding the candle and forcing the same vertically upward, as you have described, is concerned.

Objected to by plaintiff's counsel.

Answer. In my judgment there would be no difficulty in increasing the size of a machine as represented in exhibit (AAA) to that of the Humiston machine, and that candles could be forced vertically upward with good results.

Question 18. State whether or not the movable platform which you have described in defendant's exhibit (AAA) answers to and performs the same functions as the movable platform in the Humiston candle machine.

Answer. In my judgment it is designed for the same purpose as the platform in the Humiston machine.

Question. 19. Were the candle-tip moulds in defendant's exhibit (AAA) continued for several inches lower down than they appear in that exhibit, would that, in your judgment, in any manner affect the combination of the candle-tip moulds with the vertical sta-
217 tionary candle moulds, or would the design and purpose of the movable platform in any manner be affected thereby?

Objected to by plaintiff's counsel as indefinite.

Answer. In my opinion the lengthening of the tip moulds a few inches, shown in exhibit (AAA,) would not affect the principle or the operation or combination. The design of the platform would not be affected thereby, but in my opinion it would not work as well as the one shown in the exhibit (AAA.)

Adjourned to 3 o'clock p. m., by consent of counsel of both parties.

3 o'clock, p. m.

Parties met pursuant to adjournment.

Question 20. State whether or not you find in the Humiston machine, defendant's exhibit (H,) vertical stationary candle moulds?

Objected to by plaintiff's counsel, for reasons stated on question 15.

Answer. I do find vertical stationary candle moulds.

Question 21. State whether or not you find in that machine and exhibit, vertical candle-tip moulds, in combination with the vertical stationary candle moulds which you have described; and if so, state the functions of the same.

Same objection by plaintiff's counsel as the preceding question, and also as leading.

Answer. I find in the Humiston machine vertical candle-tip moulds, in combination with vertical stationary candle moulds, for the purpose of ejecting the candles from the moulds, and they also form the tip of the candle.

Question 22. In that machine and exhibit "H" how is the candle-wick in relation to the candle-tip mould, and where is the wick located with the spool?

Answer. The wick passes through the centre of the tip mould down through the drive-rod and bed-piece on to the spool; the spool lies directly under the bed-piece.

Question 23. Is this bed-piece, referred to in your last answer, stationary or movable; if movable, what is its direction?

Answer. It is movable in a vertical direction, both upwards and downward.

Question 24. How is the candle-wick in relation to the candle-tip mould and movable bed-plate in defendant's exhibit (AAA)?

Answer. The same as answered in relation to the Humiston machine above.

218 Question 25. Look at defendant's exhibit (BB,) and state whether or not you find in that exhibit vertical stationary candle moulds.

Answer. I do find vertical stationary candle moulds in that exhibit.

Question 26. State whether or not you find in that exhibit candle-tip moulds; and if so, how are they in relation to the vertical stationary candle moulds you have described?

Answer. I find candle-tip moulds in said exhibit; they are soldered fast to the bottom of the stationary candle mould, and are in combination with it.

Question 27. Look at defendant's exhibit (Y,) and state what that exhibit represents, if you know?

Answer. It represents a candle-tip mould of the Humiston machine.

The witness being cross-examined by plaintiff's counsel testified as follows:

Cross-question 28. Does exhibit (Y) correctly represent all the candle-tip moulds which you have seen in the Humiston machines?

Answer. It does correctly represent them with the exception of the different sizes; some are larger, and some are smaller than exhibit (Y,) depending on the size of the candle to be made.

Cross-question 29. To what is the tip mould in the Humiston machines attached at its lower end; is it attached to anything?

Answer. There is a tin tube or drive-rod connected to the washer at the lower end of the tip mould, forming a loose joint, there being a small brass tube cast in the lower end of the tip mould to form that loose joint.

Cross-question 30. Please explain how this connexion of the tin tube or drive-rod in the Humiston machines is made by the use of this washer.

Answer. In casting the tip mould they insert a small brass pipe in the mould and cast the tip around it which secures it to the tip mould; when complete they put the cap or washer on to the pipe, rivet down a flange to hold the washer fast; the tin tube is then soldered fast to the washer forming the connexion, leaving about one-eighth of an inch between the lower end of the tip mould and the upper end of the drive-rod.

Cross-question 31. This soldering of the tin tube or drive-rod to the washer, spoken of in your last answer, is intended to be permanent, is it not?

219 Answer. It is permanently soldered to the cup washer, and it must remain permanently connected during the operation of making candles.

Cross-question 32. Look at exhibit (EEE) said to represent a piston or drive-rod with tip mould, as found in the Stainthorp candle machine, and state the difference, if any, which you find between it and the drive-rod and tip mould in Humiston's machines.

Objected to by defendant's counsel: 1st, because the terms candle-tip mould and drive-rod, referred to in the question, are not mentioned in plaintiff's patent in suit; and, 2d, because no combination of candle-tip mould with drive-rod is found in plaintiffs' specification or drawings of their patent in suit; and, 3d, because the plaintiffs' patent in suit, in the first claim thereof, expressly declares that the candle tip mould is formed in the upper end of the piston, which device, thus formed, forms one of the elements of the combination claimed in that claim.

Answer. I find in exhibit (EEE) that the drive-rod and tip moulds are permanently soldered together, thus forming one piece inseparable; but in the Humiston machine there are two separate and distinct pieces forming tip mould and drive-rod, thus leaving the tip mould free to move or vibrate.

Cross-question 33. Do you find any other difference in the two? if so, please state it.

Answer. There is a difference in relation to the slipping motion that I have previously stated, on the brass tube, of an eighth of an inch, thus separating the tip mould and drive-rod from the ends of each other. I don't think of any further difference in the thing referred to.

Cross-question 34. In your answer to the 32d cross-interrogatory

you state in reference to the tip mould and drive-rod, exhibit (EEE,) that they are permanently soldered together. Do you not find the tip mould and drive-rod in exhibit (AA,) said to represent the device of Mr. Humiston, also permanently soldered together—that is, so as to prevent their being drawn apart?

Answer. The tip mould in exhibit (AA) and drive-rod are connected together by the means of the small brass tube, as previously stated, each being permanently fixed or fastened to the tube, thus preventing them from being separated one from the other more than an eighth of an inch; the drive-rod being free to turn round on the brass tube without turning the tip mould.

Cross-question 35. Do you mean to be understood, on your
220 direct examination, that defendant's exhibit (AAA) contains drive-rods and tip moulds, like the drive-rods and tip moulds in the Humiston's machines?

Answer. I do not mean to be so understood.

Cross-question 36. Do you regard exhibit (AAA) as like or substantially like the Humiston machine in respect to stationary candle moulds, drive-rods, and tip moulds, and a platform to raise and lower the drive-rods in the candle moulds?

The defendant's counsel objects to the last question, on the ground that the witness, on his direct examination, was not inquired of about "drive-rods" in defendant's exhibit (AAA;) and, further, because no such drive-rods exist in that exhibit.

Answer. The exhibit (AAA,) as I meant to be understood in my former answer on the direct, consists in having stationary vertical candle moulds in combination with the moulds, and a platform to raise and fall, having the tip moulds attached thereto.

Cross-question 36 is here repeated, and the witness is requested to answer whether he considers exhibit (AAA) the same or substantially the same, in the respects referred to, as he finds in Humiston's candle machines?

The defendant's counsel interposes the same objections that were made to question 36.

Answer. It is not the same. There is no drive-rod attached to exhibit (AAA.)

Cross-question 38. How should you judge the candles were to be removed from the candle moulds in exhibit (AAA)?

Answer. They are started first by the tip moulds being moved up in a vertical direction for about two inches. They are then drawn out the remainder of the distance by a windlass and cords and hooks attached to the wicks.

Cross-question 39. Do you regard exhibit (AAA) as like or substantially like the Stainthorp machine in respect to the points inquired of in relation to the Humiston machine?

Answer. I should think it was very much like the Stainthorp machine, with the exception there is no drive-rod which connects the tip mould with the platform in exhibit (AAA.) They are alike in having vertical stationary candle moulds, and a platform that raises

and falls. Those are the main features in which they resemble each other.

Cross-question 40. In what respect, if any, do you regard defendant's exhibit (AAA) more like the Stainthorp machine than it is like the Humiston machine?

221 Answer. In only one particular; the Stainthorp machine calls for a drive-rod and tip mould in one, the Humiston machine being separate pieces.

Cross-question 41. Do you mean in your last answer to state that this is substantially the only difference between the Humiston and Stainthorp machines?

Answer. I do not mean so.

Cross-question 42. Please state, then, in what respects, if any, you regard the defendant's exhibit (A A A) more like the Stainthorp machine than it is like the Humiston machine.

Answer. What led me to make the statements that I have previously made about exhibit (A A A) being more like the Stainthorp machine than it is like the Humiston machine was simply because the tip moulds were made stationary in exhibit (AAA) in the platform, they being stiff and immovable, while in the Humiston machine they are flexible. That is the only point that I see why.

Cross-question 43. Do you mean to say that the tip moulds in the Stainthorp machine are made stationary in the platform, as they are in exhibit (AAA)?

Answer. No, sir; I do not.

Cross-question 44. What do you suppose to be the object in raising the candles an inch or so from the bottom of the candle moulds by the tip moulds in exhibit (AAA) before they are drawn out of the moulds, as you have stated?

Answer. So they can be readily drawn out by the cords, the cords being insufficient to do it without starting them first from the moulds.

Cross-question 45. What is the process of starting the candles in he common hand-mould machines, and how is it done?

Answer. It is called "popping" the candles. It is done by placing the thumb upon the upper end of the candles and pressing them downward.

Cross-question 46. What is the object of this?

Defendant's counsel objects to the last question as wholly immaterial for any of the purposes of this suit.

Answer. The object is to loosen the candles from the moulds or pipes.

Cross-question 47. What is the object in loosening them from the moulds or pipes?

Objected to by defendant's counsel, for the same reason last above given.

Answer. So they can be readily drawn by the operator.

222 Cross-question 48. In what respects, if any, do you regard these hand-stand candle machines like the Humiston candle machine?

Answer. Only in stationary vertical candle moulds.

Cross-question 49. In what respects, if any, do you regard these hand-stand candle machines like the Stainthorp candle machine?

Answer. Only in stationary vertical candle moulds.

Cross-question 50. How are the tip moulds arranged on these hand-stand candle machines?

Answer. They are soldered permanently fast to the lower end of the candle mould, and form the tip of the candle, and they are not movable.

Cross-question 51. How are the candles removed from the moulds in these hand-stand machines?

Defendant's counsel objects to the last question, as wholly immaterial for any of the purposes of this suit.

Answer. The operator generally uses a shoemaker's awl, by inserting the awl into this wick and drawing the candle out of the mould. I have seen candles drawn out sometimes in a horizontal and sometimes in a vertical direction, but always from the top of the mould.

Cross-question 52. Do you regard it as material whether the candles made in such a machine as exhibit (AAA) represents are started by the tip moulds therein more than the distance of half an inch or less, providing the candles are made sufficiently loose thereby to be drawn out as you have stated?

Defendant's counsel objects to the last question:

First, as wholly immaterial for any of the purposes of this suit; and

Second, witness has already, on the direct and cross-examinations, testified that, so far as starting of the candles, and forcing them upward for about two inches in the exhibit (AAA,) and the starting and forcing the candles in the Humiston machine for the same distance, is done by the same means.

Complainants' counsel denies that the witness has stated as narrated to him by the defendant's counsel, and refers to the record in verification thereof.

Defendant's counsel replies and says that he has narrated nothing to the witness, but addressed himself to the examiner in the usual and in a legitimate manner; and for the truth of the statement made by the counsel of defendant in the last objection above, he refers to the direct and cross-examination of this witness, and here again repeats the statement and objection.

223 Answer. I do not think that it would be necessary to move them, any more than to make them loose enough to be drawn out.

Cross-question 53. Do you regard a device which merely loosens the candles in the moulds, as you have stated in reference to the tip moulds in defendant's exhibit (AAA,) the same or substantially the same as a device like the drive-rods or pistons in the Stainthorp and Humiston machines, which ejects the candles out of the moulds in which they were formed.

Objected to by defendant's counsel, on the ground that the witness has not, on this examination, testified that candles made in defend-

ant's exhibit (AAA) are only started from the moulds, but, on the other hand, has testified that they are started from the moulds and forced vertically upward to the distance of about two inches, and that in this respect this exhibit is like the Humiston machine; therefore the use of the term "merely starting the candles" is intended to mislead the witness.

Complainants' counsel denies that he either intends to mislead the witness, or have him misled by others, but wishes the witness to answer without reference to any suggestive objections which will be more likely to mislead him than the question.

Answer. I do not consider it the same in all respects.

Cross-question 54. In your direct examination you were asked by the defendant's counsel as to what would be the effect if the tip moulds in exhibit (AAA) were continued several inches, to which you replied that in your opinion the lengthening of the tip moulds several inches would not alter or change their principle. Do you mean that if drive-rods or pistons were added to the bottom of these tip moulds, sufficiently long to eject the candles out of the moulds in which they were formed, that this would not change the principle or action of the machine referred to?

Answer. I did not mean to be understood in that way.

Cross-question 55. Do you mean to be understood that the addition of drive-rods or pistons sufficiently long to eject the candles from the moulds would be different in principle and mode of operation from what is shown as to the construction and operation of the pistons in exhibit (AAA)?

Defendant's counsel objects to the last question—

1st. The length of the piston is no part of the plaintiffs' patent in suit;

224 2d. Length of piston is not the subject-matter of patent, it constituting no invention.

Answer. I do not think there would be any difference, whether they were long or short.

Cross-question 56. Then you regard the principle and mode of operation of the drive-rods or pistons with tip moulds, as in the Stainthorp and Humiston machines, the same as the principle and mode of operation of the tip moulds in exhibit (AAA,) do you not?

Answer. As far as starting and pushing the candles they are the same.

Adjourned, by consent, to December 18th, 1863, at 9 o'clock a. m., at same time and place.

Monday morning, December 28th, 1863, at 9 o'clock a. m., parties appeared, by their respective counsel, pursuant to adjournment, and the cross-examination of the witness, Sherwood, was continued as follows:

Cross-question 57. What is the difference, in distance, between the bottoms of the tip mould in exhibit (AAA) and the upper surfaces of the shoulders of the tip moulds above the platform in that exhibit?

Answer. The difference is 7-8th and 1-16th of an inch.

Question and answer objected to by defendant's counsel as wholly immaterial for any of the purposes of this suit.

Cross-question 58. Then is not this distance which you have mentioned in your last answer, the distance or space through which candles would be moved in the stationary moulds by the tip moulds, in this exhibit, or in a machine made like it?

Answer. It would not be the same distance.

Cross-question 59. Would the tip of the candles made in this exhibit, or in a machine like it, be pushed or forced higher up the stationary candle moulds than the bottom of the tip moulds?

Answer. They would not; they would be forced just as high up.

Cross-question 60. Then, on this examination, where you have stated that the candles in the moulds are or may be pushed or forced up the stationary candle moulds, in a vertical direction, by the tip moulds in said exhibit, or in a machine made like it, you mean, do you not, that the candles may be pushed or forced up the stationary moulds by the tip moulds in a vertical direction through a space equal to the distance between the bottom of the tip moulds and the
225 upper surface of the shoulder of the tip moulds, which impinges, when raised, against the bottom of the stationary candle moulds?

Answer. I do not mean to be understood to have made any such statement. The distance of the travel of the tip moulds is greater than the previous question called for, and the tip of the candle will be moved the same distance as the travel of the platform in this exhibit (AAA.)

Cross-question 61. Do you mean to state, on this examination, that the lower ends of the tips of the candles would be moved through any greater space by the tip moulds in this exhibit (AAA) than the bottom, on which they rest, moves?

Answer. I do not think they would be moved any further; they would be moved the same distance.

Cross-question 62. Do you mean to say that there is any loose joint in the tip moulds of the exhibit (AAA.) or in any other exhibit said to represent them?

Answer. There is not any loose joint.

Cross-question 63. Then in your direct examination, when you speak of the combination being the same in exhibit (AAA) as in the Humiston machine, you mean, do you not, that you find in this exhibit a combination of stationary candle moulds with tip moulds, and that you also find such combination in the Humiston machine?

Answer. I mean to say that I find in exhibit (AAA) the vertical stationary candle moulds and candle-tip moulds in combination the same as in the Humiston.

Cross-question 64. Is this what you meant in speaking of the combination referred to in the last question?

The defendant's counsel objects to the last question, it having been fully answered in answer to the last question.

Answer. I do not know that I could answer the question any clearer than I have in my previous answer.

Cross-question 65. Question 64 is repeated.

The same objection is given to it as above by defendant's counsel.

Answer. I do not see that I can alter or change that answer from what I have previously given.

Cross-question 66. In your answer to the 62d interrogatory you say that you find in exhibit (AAA) the vertical stationary candle moulds and candle-tip moulds, in combination the same as in the Humiston machine; state whether this combination is what you refer to in your direct examination where you state that you find the same combination in that exhibit that you find in the Humiston machine.

Answer. That is the combination that I referred.

226 Cross-question 67. Are not the tip moulds in Humiston's machines forced vertically upwards through the whole length of the stationary moulds so as to eject the candles therefrom in a vertical direction?

Answer. They are.

Cross-question 68. Do the tip moulds, in exhibit (AAA,) force or eject the candles out of the stationary moulds?

Objected to by defendant's counsel, 1st, as wholly immaterial whether the candles are forced entirely from the stationary candle moulds in a vertical direction; and 2d, the distance which the candles are forced vertically upwards is no part of plaintiffs' patent in suit; 3d, because plaintiffs' patent in suit is for a special combination of but two devices as stated in the first claim of their patent; and 4th, because the distance called for by the question, through which the candle is forced upward, is not patentable matter; and 5th, because, in view of the Morgan patent of 1834, and the Morgan & Gaskell patent of 1852, candles were forced by the tip moulds entirely from the candle moulds, which fact also renders the question wholly irrelevant and immaterial for any of the purposes of this suit.

Complainants' counsel denies each of the propositions above mentioned, and objects to said statements, or any of them, being taken or used as evidence in this cause.

Answer. They do not.

Cross-question 69. Have you in giving your testimony, in answer to the several questions put to you on this cross-examination, fully, fairly, and honestly answered the same in relation to the several points therein referred to; and is there anything which you desire to change or alter in any respect?

Objected to by defendant's counsel, 1st, because this witness has been sworn by the examiner for this examination, according to the law of this State; and 2d, having been thus sworn, the question is not only an insult to the witness, but to the court; and 3d, the defendant's counsel here instructs the witness, and requests the witness to refuse to answer to the question, so far as it relates as to whether or not he has told the truth on this examination, he having been sworn to tell the truth.

Complainants' counsel disclaims any intended insult, either to the witness or the court.

Answer. I have answered the questions to the best of my ability,

and fairly and honestly, and there is nothing that I have testified to, that I know of, that I desire to change or alter in any respect.

227 Cross-question 70. You will please enumerate all the cases in which you have before this suit given your testimony as an expert.

Answer. That would be impossible, for me to give all the suits in which I have been examined as an expert, without reference to my books, which are not here. There is the Stanley stove case; the Atwood stove case; the Elliot's patent pistol case; and this Humiston case, in which I have been examined two or three times; I don't recollect of any others.

Cross-question 71. About how long since were you first examined as an expert in any patent case?

Defendant's counsel objects to the last question as wholly immaterial, and the defendant's counsel here states that this witness is not, has not, and will not be offered in this case as a professional or fashionable expert; and here further states that this witness never in his life received a retaining as an expert: and here further states that this witness was, is, and will be offered as an expert witness of theoretical and mechanical knowledge.

Answer. I think the first was the fall of 1857. I could say positively to that, but it is as near as my memory serves.

Cross-question 72. Have you testified as an expert in any patent case within the last year, except in this candle machine case? If so, in what case?

The defendant's counsel makes the same objections as before to the last question, and the same statements are here repeated.

Answer. I have; in the case of Atwood *vs.* Fuller, Warren & Co. That is all I now recollect of.

Cross-question 73. Have you ever been examined as an expert in any patent case in open court before the judge? If so, in what case?

Objected to by defendant's counsel as immaterial.

Answer. I have not; they have all been equity cases.

Cross-question 74. Has not your testimony in some of the cases before referred to consisted of affidavits which were prepared by counsel, and sworn to by you?

Answer. I think of but in one instance, and that was this very case.

Cross-question 75. Were you cross-examined in any of the cases in which you gave testimony but this?

Answer. I have been cross-examined in every case excepting the affidavit sworn to in this case, and in the Elliot patent pistol

228 case. The counsel failed to appear in that case, and consequently there was no cross-examination.

Cross-question 76. Then you have been cross-examined in this case and in the two stove cases, have you?

Answer. That is all of the cases I remember of now.

Cross-question 77. At what place were you examined on each of the occasions where you gave testimony as an expert?

Answer. In Plattsburgh, in the Elliot patent pistol case; in Troy, at Mr. Norton's office, in all the other cases.

Cross-question 78. Who was counsel for the party of each of the patent cases for whom you have been examined as an expert?

Answer. I have forgotten the name of the party's counsel in the Elliot patent pistol case, as I keep no documents containing the names of the counsel. In the cases in this office, Mr. Norton has been the principal counsel for the party for whom I have testified, as far as I have known.

Cross-question 79. Who procured you to go to Plattsburgh and testify as an expert in the pistol case?

Answer. Mr. Elliot, of Plattsburgh, the inventor.

Cross-question 80. Was Mr. Norton also one of the counsel for Mr. Elliot in that case?

Answer. He was not.

Cross-question 81. Had Mr. Norton nothing to do with that case?

Answer. He had not, to my knowledge.

Cross-question 82. Has not Mr. Norton, in every other patent case in which you have testified as an expert, been counsel for the party for whom you have so testified?

Answer. He has.

Cross-question 83. Have you ever been engaged in taking out patents as agent for others?

Answer. I never have. I never have taken out any patents in any way, either for myself or any one else.

Cross-question 84. Have you ever made any invention for which you have had application made to the Patent Office for a patent?

Answer. No, sir; I never have.

Cross-question 85. What kind of work have you been engaged in for Mr. Humiston, the defendant?

Answer. Principally in making moulds for casting candle moulds and candle-tip moulds, and other soft metal of a similar character. I have also done work on his lathes, sawing machines, steam-engines, line shafting, horse-power machine, and patterns for a portion
229 of his candle machines. That has been the principal work that I have done for him.

Cross-question 86. About what portion of your time is occupied in doing work for Mr. Humiston, the defendant?

Answer. That is a hard question for me to answer; it must be guess-work, unless I could have the privilege of referring to my books.

Cross-question 87. Do you work for him as much as half of your time, do you think?

Answer. I do not; probably about one-twelfth of my time.

Cross-question 88. Are you also employed a large portion of your time in making models and other articles for Mr. Norton, the defendant's counsel?

Answer. I am employed in making models and other articles for Mr. Norton about one-tenth of my time, I should think.

Cross-question 89. How many workmen do you employ to help you?

Answer. At present I have no one but myself; for the last two

years the most part of the time I have had two; previous to that I employed from twelve to fourteen hands.

The direct examination was here resumed.

Question 90. State whether or not you are a practical machinist and mechanic.

Answer. I am both.

Question 91. State whether or not you have been engaged at different times in the making of models of different inventions and for different parties; and if so, for about what length of time.

Answer. I have been engaged more or less of my time in making models for inventions for different parties for the last twenty years.

Question 92. State whether or not you could construct by labor a steam-engine.

Answer. I could.

Question 93. State whether or not you can construct by labor a candle machine like the Humiston machine for making candles.

Answer. I could in all its parts, both wood, iron, and other metals.

Question 94. Could you construct such machine according to the drawings and specifications of his patent (Humiston) of July 24, 1855, and reissued January 22, 1861?

Answer. I think I could without any difficulty.

230 Question 95. Could you construct by labor a candle machine like defendant's exhibit (AAA,) and also like defendant's exhibit (BB)?

Answer. I could.

Question 96. You have examined, have you not, the Stainthorp candle machine, marked defendant's exhibit (J,) and could you construct by labor such a machine as that?

Answer. I have examined that machine, and think I could construct one like it.

Question 97. Look at defendant's exhibit (K,) and state whether or not you could construct by labor a machine like that exhibit.

Answer. I could.

Question 98. Look at the drawings of the Stainthorp patent in suit marked defendant's exhibit (E,) and state whether or not defendant's exhibit (K) is constructed like those drawings, in whole and in detail.

Complainants' counsel here objects to defendants' counsel going into the matter inquired of in this question, it having been here first introduced to the attention of the witness on this redirect examination.

Answer. It is constructed in whole and in detail like the drawings in defendant's exhibit (E.)

Question 99. In answer to cross-question 33, you state that there is a difference in relation to the slipping motion that I have previously stated, on the brass tube, of an eighth of an inch, thus separating the tip mould and drive-rod from the ends of each other, and that this was the difference between the Humiston and Stainthorp machines in that respect; is this difference which you find in the Humiston machine, in your judgment as a practical mechanic, a material and important difference in the manufacture of candles and in the operation of the machine; and if not, why not?

Objected to by complainants' counsel, as the witness has already fully stated in relation to the matter inquired of, and because he is not a practical manufacturer of candles by the operation of the machine referred to, or in any other machine.

Answer. In my judgment it is a material and important part, necessary in the manufacture of candles.

Question 100. During what operation of the Humiston machine does the drive-rod and candle-tip mould come in contact with each other, and during what operation are they separated from each
231 other, as referred to by you in answer to cross-question No. 33?

The complainants' counsel makes same objection as last above, and because assuming.

Answer. The drive-rod and candle-tip mould are brought in contact with each other in the operation of starting the candle from the candle mould, and pushing it out of the mould. It is disconnected while receding downwards to its former position, and remains separated until again forced upwards.

Question 101. In cross-question 36 you were inquired of: "Do you regard exhibit (AAA) as like, or substantially like, the Humiston machine in respect to stationary candle moulds, drive-rods, and tip moulds, and platform to raise and lower the drive-rods in the candle moulds?" Please state whether or not, with the exception of the drive-rods referred to in that question, defendant's exhibit (AAA,) in respect to vertical stationary candle moulds and candle-tip moulds, and platform, and the starting and the forcing of the candle vertically upwards, they are the same, or substantially the same, as to the matter inquired about.

The last question objected to by complainants' counsel, as the witness has already been fully examined as to the matters inquired about in this question, and has been fully cross-examined in relation thereto.

Answer. I consider that the stationary candle moulds, in combination with candle-tip moulds, with its platform, as represented in defendant's exhibit (AAA,) pushing the candle in a vertical direction, the same in principle and operation as the Humiston machine.

Question 102. You have stated, on your cross-examination, that the candle-tip moulds in defendant's exhibit (AAA) are moved by the platform upward about one inch and a half; now, were the vertical stationary candle moulds about one inch and a half long, could you make, in this machine, and force vertically upward and entirely out of such mould, candles about one inch and a half long?

Objected to by complainants' counsel.

Answer. I could not. I could not force a candle entirely out; the tip of the candle would still be below the upper end of the mould.

Question 103. In that case what would be the length of the body of the candle and the tip of the candle together?

Answer. One inch and a half; I mean one inch and three-quarters would be the length of the candle and of the tip combined, or together.

232 Question 104. Do you mean, then, to be understood that, in such a case, the body of the candle would be forced entirely out of the mould?

Answer. I mean that the body of the candle would be forced entirely out of the mould.

Question 105. In defendant's exhibit (AAA) you will please measure the length of the vertical stationary candle moulds, and measure, also, the length of the vertical candle-tip moulds, and then state the difference, if any, between the vertical stationary candle mould in the Stainthorp machine and the vertical candle-tip moulds combined therewith, and the movable platform for starting and forcing candles upward by means thereof.

The last question objected to by complainants' counsel as irrelevant, immaterial, and assuming.

Answer. I have measured the length of the vertical stationary candle moulds in exhibit (AAA) and find the length to be nine inches and three-eighths of an inch; I have also measured the length of the vertical candle-tip moulds in that exhibit, and I find their length to be three inches and one-half from top to bottom, measuring the entire length; the difference between exhibit (AAA) and the Stainthorp machine consists in the length of the tip moulds and the distance that the platform has to travel to push the candles out of the moulds.

Question 106. If the tip moulds in defendant's exhibit (AAA) were of the same length of the vertical stationary candle moulds, would not the candle be forced out of the moulds in the same manner, and by the same means, meaning movable platform and candle-tip moulds, and vertical stationary candle moulds, and all devices connected therewith as in the Stainthorp machine, with the exception of the tip of the candles?

The last question objected to by complainants' counsel as irrelevant, immaterial, uncertain, conjectural, and not having reference, so far as it relates to exhibit (AAA, to any machine or model made by Whitfield, the author of that exhibit.

Answer. They would.

Question 107. The difference, then, between defendant's exhibit (AAA) and the Stainthorp candle machine, in respect to the matter inquired about in the last question, consists only in the length of pistons, does it not?

The last question objected to by complainants' counsel, as the witness has not been interrogated as to length of pistons, but as to length of tip moulds.

233 Answer. It consists only in the length of the pistons; all the rest is the same. I think I understand the question.

Recess to 2½ o'clock p. m.

MONDAY, 2½ o'clock p. m.

The redirect examination of the witness Sherwood resumed, by M. P. Norton, esq., defendant's counsel, as follows:

Question 108. Were you to put the defendant's exhibit (Z,) or a similar device, to the lower end of defendant's exhibit (CCC,) and

there connect the same by means of universal joints, what kind of device would you have, and what would it resemble in principle and operation?

Objected to as irrelevant by complainants' counsel, immaterial and conjectural.

Answer. The device would be a drive-rod and tip mould resembling the Humiston drive-rod and tip mould.

Question 109. Were the tube containing a screw thread on defendant's exhibit (CCC) extended downward for about twelve inches, and there connected with a movable platform, what kind of a device would thus be formed, and what could it be like in principle and operation?

Objected to by complainants' counsel as irrelevant, immaterial, and conjectural.

Answer. The device would be a drive-rod, with a tip mould in its upper end, like unto the drive-rod and tip mould of the Stainthorp machine.

Question 110. Please state, from your best judgment as a practical mechanic, whether or not defendant's exhibit (AAA) could be turned from a vertical to a horizontal position; and if so, what would be the effect?

Objected to by complainants' counsel, as immaterial, irrelevant, incompetent, and conjectural.

Answer. The exhibit could be turned from a vertical to a horizontal position; there would be no difference in the working of the machine in my judgment, forcing the candle-tip moulds as far as the machine is designed to move them, and it would not hinder the drawing of the candles out of the moulds by means of the windlass, cords and hooks and wicks.

Question 111. Could the candle wick, with a machine in that position, be as well centred in the stationary candle moulds after one set of candles had been drawn therefrom, as they could be with the machine in a vertical position?

Complainants' counsel interposes the same objection as last above.

234 Answer. They could be, with a suitable device attached for the purpose of centring the wicks.

Question 112. Could the Stainthorp candle machine be turned from a vertical to a horizontal position; and if so, what would be the effect as to forcing candles from the moulds?

Objected to by complainants' counsel as immaterial, irrelevant, incompetent, conjectural, and absurd.

Answer. It could be turned from a vertical to a horizontal position; without a suitable device, there would be nothing to sustain the candles in a horizontal position, consequently they would be liable to break, and there would be no way of centring the wicks. The candles could be forced out of the moulds in a horizontal position.

Question 113. Please state whether or not the candles in the Stainthorp machine are started by the candle tip-moulds therein, and then

forced upward through the same distance as in defendant's exhibit (AAA.)

Answer. They are.

Question 114. How do you answer the last question as applied to the Humiston machine?

Answer. I answer it in the same way.

Question 115. You have stated on your cross-examination that the plaintiff's patent in suit calls for drive-rod and tip mould in one; what do you mean by that?

Answer. The tip mould being permanently soldered to the drive-rod, forms one and an inseparable piece; that is what I mean by my previous answer.

Question 116. Then such a device answers to the pistons with candle-tip mould therein at its upper end, mentioned in the specification and first claim of plaintiffs' suit, does it not?

The complainants' counsel objects to the last question, as this witness is not an expert as to the scope and meaning of patents.

Answer. It does, as I understand the patent, and the device referred to.

Question 117. Please state the difference, if any, between defendant's exhibits (CCC) and (EEE) other than the length of the same.

Answer. I discover no difference in the exhibits, except in their length.

The complainants' counsel objects to the last question as fully gone into on the direct and cross-examinations, and to the answer also.

235 Question 118. Please state whether or not candles made in a machine like defendant's exhibit (AAA.) after being first started by the tip moulds and movable platform, are then forced or pushed upward in the vertical stationary candle moulds.

The last question objected to by complainants' counsel, as this point has been fully gone into on the direct and cross-examination of this witness, and because it does not appear that the witness ever used or saw used a candle machine like exhibit (AAA.)

Answer. After being started, they are then pushed or forced upwards in the vertical stationary candle moulds.

Question 119. In forcing candles vertically upward in the machine [defendant's exhibit (AAA),] which would be forced the furthest upward, the but end or the tip end of the candle?

Answer. They would both travel the same distance, and in the same length of time.

Question 120. Look at defendant's exhibit (BB,) and state whether or not you have ever constructed a candle machine like that exhibit, or seen such in use; and if so, at about what time?

Answer. I have constructed candle machines like exhibit (BB,) and parts of machines like it, about eighteen years ago, and I have seen such machines in use about twenty-five years ago.

Question 121. Have you any interest, in any manner whatever, directly or indirectly, in the issues or the result of this suit?

Answer. I have not.

Question 122. Have you any interest whatever prejudiced in favor of the defendant or the defendant's counsel, by reason of ever having been in their employ?

Answer. I am not.

Question 123. Are you in any manner whatever prejudiced against the complainants, or either of them, or their patent in this suit?

Answer. I am not.

The cross-examination of witness resumed.

Cross-question 124. What is the vertical length of the spaces for the ends of the movable platform to slide in above the platform in exhibit (AAA)?

Answer. One inch and one-half and one-sixteenth of an inch.

Cross-question 125. Is not that the limit of motion of the movable platform in that exhibit?

236 Objected to by defendant's counsel as immaterial for any of the purposes of this suit.

Answer. It is.

Cross-question 126. What is the thickness of the movable platform in that exhibit? and state whether its bottom rests, and, in the organization of that exhibit, is intended to rest, at its ends or the bottom of these spaces or ways.

The defendant's counsel interposes the same objection to the last question as to the last above.

Answer. It is eleven-sixteenths of an inch thick. It does rest on the bottom of the ways, and is so intended to rest in the organization of the machine.

Cross question 127. Is the movement of the movable platform in either the Humiston or the Stainthorp machines limited to the small space to which the movement thereof is limited in exhibit (AAA)?

Same objection as last above by defendant's counsel.

Answer. It is not.

Cross-question 128. Are not the movable platforms to which the bottom of the drive-rods or pistons are fastened in both the Stainthorp and the Humiston machines required, from the organization of each of those machines, to move up the ways, carrying with them the drive-rods, pistons, and tip moulds, sufficiently far to eject the candles from the stationary moulds in which they are formed?

Defendant's counsel interposes the same objection as the last above, and the further objection that the matter inquired about is no part of the plaintiff's patent in suit.

Answer. It is necessary that the platform in each of those machines, with their drive-rods and tip moulds attached thereto, should raise and fall in their ways sufficiently to force the candle entirely out of the moulds in which they were made.

Cross-question 129. In the organization and operation of defendant's exhibit (AAA,) or in a machine made like it, can the platform be raised in the ways sufficiently far to force the candles out of the moulds?

The defendant's counsel interposes the objection last above given,

and further, that plaintiffs' patent in suit is not for an organized machine, but is limited to a special combination of two devices, as referred to in the first claim thereof.

Answer. It cannot.

The redirect examination resumed :

237 Question 130. If, on the Stainthorp or Humiston machines, there were no clamps to receive and to hold the candles when forced therein from the moulds below by means of the candle-tip moulds and movable platform connected therewith by means of drive-rods or otherwise, would it be necessary, in your judgment as a practical mechanic, to force the candle entirely out from the mould; and if forced out without such clamps, what would be the result or the effect produced ?

Complainants' counsel objects to the last question as irrelevant, immaterial, incompetent, conjectural, and obscure, and as new matter here first introduced on this second redirect examination.

Answer. In my judgment, the candle should not be forced entirely out of the mould. Should they be thus forced out, they would naturally fall out of the tip mould, and mar and break the candles, unless there were some device by which the candles would be received and held.

Question 131. In your judgment as a practical mechanic, about how much ingenuity and mechanical skill would be required to construct defendant's exhibit (AAA) so that the candles can be forced entirely out from the vertical stationary candle moulds ?

Complainants' counsel objects to the last question as irrelevant, immaterial, incompetent, conjectural, and absurd, the witness being asked the question after he has seen and examined both the Stainthorp and Humiston machines and patents.

Answer. I do not think that it would require any great amount of mechanical skill to change the machine so that the candles might be forced entirely out of the moulds; and further, I have already answered how it might be done. It might be done by lengthening the drive-rods or pistons, and also the ways in which the platform moves up and down sufficiently for that purpose.

Question 132. Please state whether or not you regard in the Humiston machine the clamps to receive and hold the candles above the moulds as the main, essential, or important device or feature in the organization of that machine, for the purpose of making candles for the market in large quantities, at one time and operation of the machine.

The last question is objected to by complainant's counsel as new matter, not before introduced on the present examination of this witness.

238 Answer. I do so consider the clamps to be an essential and all-important device for holding the candles, and for the rapid manufacture of the same.

Question 133. Would the Humiston machine be a practical and a useful machine for the manufacture of candles, either in small or large

quantities, at one operation thereof, without the use of the clamp or clamps, substantially the same as those referred to in your last answer?

The complainants' counsel interposes the same objection to this last question as to the one last above.

Answer. In my judgment the machine could not manufacture candles, in large or small quantities, without the Humiston clamp, or a device equal to it.

The re-cross-examination of witness resumed:

Cross-question 134. In the construction and operation of Humiston's machine is it not indispensable that stationary candle moulds and drive-rods, or pistons with tip moulds at their upper ends, should be used?

Answer. It is necessary.

Cross-question 135. Is it not also indispensable that they should be used in the construction and operation of Stainthorp's machine?

Answer. It is also indispensable.

Redirect examination resumed:

Question 136. On your last cross-examination you have testified that stationary candle moulds and drive-rods, or pistons with tip moulds at their upper ends, are necessary to be used in the Humiston machine; do you mean to be understood that they are so necessary without the use of clamps to receive and hold the candles above the moulds, or do you mean that they are only necessary in connexion or combination with such clamps for the purpose of making candles?

The last question objected to by complainants' counsel, as the witness has already stated that he regards clamps or some other device necessary to receive the candles after being forced from the moulds.

Answer. I consider them necessary in connexion with the clamp, or any other device equally as good; otherwise the machine would not be perfect.

C. A. SHERWOOD.

Subscribed and sworn to before me, this 28th day of December, 1863.

JOHN T. LAMPORT,
United States Examiner.

Recess to 7½ o'clock p. m.

239 Monday Evening, December 28, 1863, at 7½ o'clock p. m., the parties, by their respective counsel, appeared pursuant to the above adjournment, and Franklin Scott, a witness produced on the part of the defendant, was by me duly sworn, and testified as follows:

Question 1. Have you heretofore been examined as a witness on the part of the defendant in this cause?

Answer. I have.

Question 2. Have you examined, and if so, do you understand, defendant's exhibit (AAA) in construction, principle, and operation?

Answer. I have examined such exhibit, and think I understand the principle, construction, and operation of the same.

Question 3. State whether or not you find in that exhibit vertical stationary candle moulds.

Answer. I do find vertical stationary candle moulds in that exhibit.

Question 4. State whether or not you find in that exhibit pistons with candle-tip moulds in the upper ends thereof in combination with the vertical stationary candle moulds referred to by you in your last answer.

Answer. I do find in that exhibit pistons formed at their upper ends into candle-tip moulds in such combination.

Question 5. State whether or not you find such pistons as you have last described attached and secured to a movable platform.

Answer. I do find such pistons so attached and secured.

Question 6. Please state whether or not candles moulded in such vertical stationary moulds can be started and forced upward in a vertical direction by means of the pistons and movable platform referred to by you.

Answer. They can.

Question 7. Please describe the direction, and through what devices, the candle wick passes in this exhibit (AAA.)

Answer. The candle wick passes upward through the candle-tip mould, thence through the stationary candle mould, and also through the movable platform through which it passes first from the spools below.

Question 8. Please state how these vertical stationary candle moulds and the candle-tip moulds, in combination therewith, compare with the Humiston candle machine in that respect, if you have examined the Humiston candle machine in suit, and understand
240 the same concerning the matter inquired about.

Answer. I have examined and understand the Humiston candle machine in suit, and the vertical stationary moulds, and the piston tip moulds in combination therewith, correspond to and perform the same functions in exhibit (AAA) that the vertical stationary candle moulds in combination with the candle tip moulds perform in the Humiston machine.

Question 9. Please state whether or not candles moulded in the vertical stationary moulds in the Humiston machine are started and forced vertically upward in that machine by means of candle-tip moulds and movable platform.

Answer. They are so started and forced upward.

Question 10. In what direction and through what devices does the candle wick pass in the Humiston machine?

Answer. It passes from the spool vertically through the platform, drive-rod, candle-tip mould, and stationary candle mould in that machine.

Question 11. Look at defendant's exhibit (CCC) and defendant's exhibit (M,) and especially the candle-tip mould of exhibit (M,) and state the difference, if any, in the principle and the purpose of the same.

Answer. They are similar in construction, except that the candle-

tip mould in exhibit (M) is provided with a short brass tube with a flange turned on its lower end for the purpose of receiving the cap of the drive-rod. No such device as this appears in exhibit (CCC;) in other respects, exhibit (CCC) and the candle-tip mould in exhibit (M) are similar in construction and perform similar functions. I might say, however, that exhibit (CCC) is constructed with a collar or shoulder about an inch and three-quarters from its lower end, and a screw at the lower end, by means of which it is secured to the platform seen in exhibit (AAA.)

Question 12. Look at defendant's exhibit (FFF,) and state the difference, if any, between that exhibit and defendant's exhibit (CCC,) as to principle, construction, and operation.

Answer. I discover no difference in the principle, and the only difference in the construction is in the length of the two exhibits, and their mode of attachment to the platform; their mode of operation is the same.

Question 13. In the Humiston machine, as an organized machine, please state whether or not the clamps upon that machine, or a device substantially the same, are an essential and important device to receive and hold candles above the moulds in considerable quantities.

241 Answer. I should think they were essential for that purpose.

Question 14. In defendant's exhibit (AAA) are candles suspended vertically over the stationary moulds below for the purpose of centring the wicks, and during the operation of moulding the candles below in the stationary mould?

Answer. They are so suspended.

Question 15. In the Humiston machine are candles suspended over such stationary candle moulds for the same purpose as referred to in your last answer; and if so, what is the device used for that purpose?

Answer. They are so suspended in that machine, and the device used for that purpose is a set of clamps into which the candles pass on being forced from the moulds, and by means of which they are firmly grasped and held.

Question 16. Were the clamps on the Humiston machine, which you have described, applied to defendant's exhibit (AAA) in the manner and by the means shown in the Humiston machine, defendant's exhibit (H,) what would be required to be done in exhibit (AAA) to force the candles from the stationary candle moulds into such clamps?

The complainants' counsel objects to the last question as incompetent, immaterial, and irrelevant.

Answer. The piston tip moulds would have to be lengthened sufficiently to force the candle entirely out of the stationary mould, and the construction of the machine, exhibit (AAA,) would have to be changed only so as to accommodate itself to this modification of the piston tip moulds; the apparatus shown in exhibit (AAA,) by means of which the candle is drawn from the mould and suspended for the purpose of centring the wick, might then be entirely dispensed with.

Question 17. State whether or not the length and size of the candle in the Humiston machine, and also in defendant's exhibit (AAA,)

depend upon the size and length of the vertical stationary candle mould used.

Answer. It does.

Question 18. If a short candle were to be made in either, and to be forced vertically, entirely from the stationary moulds, about what length of candle-tip mould or piston would be required for that purpose?

The complainants' counsel objects to the last question as irrelevant, incompetent, immaterial, and indefinite.

Answer. A tip mould or piston of a length a little greater
242 than that of the Stainthorp candle mould used.

Question 19. Then you mean to be understood, do you not, that a short candle to be made in either machine would not require as long a candle-tip mould or piston as would be required in the manufacture of a long candle, and in ejecting it from the stationary mould?

The same objection as the last above is made by complainants' counsel to the last question.

Answer. I think it would require a candle-tip mould or piston of as great length in the one case as in the other.

Question 20. Do you mean by your last answer that a short piston, in forcing a short candle from a short stationary candle mould, could be used to force a longer candle from a longer stationary candle mould?

Answer. It might be so used.

Question 21. In your judgment, about how much ingenuity and mechanical skill would be required to construct a machine like defendant's exhibit (AAA,) so that the candles could be forced entirely out from the vertical stationary candle mould?

Objected to by complainants' counsel as incompetent, immaterial, irrelevant, and because the point inquired about is not susceptible of ascertainment, especially with Stainthorp and Humiston's machines and patents before the witness.

Answer. About as much ingenuity as a man would exhibit who would make two jags of a load that he could not carry in one.

Question 22. Do you then regard the lengthening of the pistons or tip moulds to a length to correspond with the vertical stationary moulds, so as to push the candle clear out therefrom, as the exercise of any degree of mechanical skill or ingenuity?

Complainants' counsel interposes same objection as last above to the last question.

Answer. I should regard it as the exercise of a very small degree of mechanical skill and ingenuity.

Question 23. Please state whether or not, in the Humiston candle machine, and in plaintiffs' Stainthorp candle machine in suit, and in defendant's exhibit (AAA,) you find vertical stationary candle moulds, in combination with vertical movable candle-tip moulds.

Answer. I do find such stationary moulds, and such tip moulds in such combination, in all of the machines named.

243 Question 24. Please state whether or not, in each of the machines referred to in your last answer, you find platforms which may be moved vertically up or down.

Answer. I do find platforms which may be so moved in each of these machines.

Question 25. Look at the drawings of plaintiff's patent in suit, marked defendant's exhibit (E,) and state whether or not the racks and tip bars over the stationary candle moulds of defendant's exhibit (K) are constructed according to the drawings of that patent in that respect—I mean as to principle and operation.

Objected to by complainants' counsel as incompetent.

Answer. I should say that the rack and tip bar in exhibit (K) were constructed as the rack and tip bar are represented in the drawings alluded to.

Adjourned until December 29, 1863, at 8½ o'clock p. m., by consent of parties.

Parties met pursuant to adjournment, when, by consent of counsel, it was further adjourned to Wednesday morning, at 9¼ o'clock.

WEDNESDAY, *December* 30, 1863—9½ o'clock a. m.

Parties met pursuant to adjournment, and the further examination of the witness Scott was here proceeded with.

Question 26. Look at defendant's exhibit (K,) and especially the rack and tip bar above the vertical stationary candle moulds, and state whether the same are permanently connected to and with the candle machine frame below; and if so, describe the means used for that purpose, and also describe the manner of connecting the tip bar to the rack, and then describe the operation of these devices in the working of the machine.

Objected to by plaintiff's counsel, as this witness is not shown to be an expert in the operation of a machine like exhibit (K,) or in the operation of any candle machine, and because the connexions and means inquired about in the question are better shown from the model itself.

Answer. In exhibit (K) the rack spoken of is permanently attached to the machine by means of two butts or hinges, and when the machine is in use the tip bar is turned out from the under side of the rack; the rack is then brought in position over the stationary moulds, and while in this position the candles are drawn from the stationary moulds into and are received by this rack; from this position the rack is turned down on the side, the tip bar is then brought over and receives the tips of the candles; the wick is then secured
244 by means of the clasp on the under side of the tip bar, the rack containing the candle is then brought back to its former position over the moulds, the platform is then lowered, and by this means the wicks are centred. The machine is then ready fo ruse the second time.

Question 27. Look at defendant's exhibit (JJ,) and state whether or not that exhibit is in construction, principle, and operation like the

rack and tip bars described by plaintiffs' patent in suit, ("if you have read that patent and understand it,") and like the rack and tip bar you have described in your last answer; and state, further, whether the same are designed to be permanently connected to the candle machine in the manner described by you in your last answer.

Objected to by plaintiffs' counsel: 1st, because that nowhere appears in the case that exhibit (JJ) was made or sold by Stainthorp & Co., or under their direction; 2d, because the patent itself is the best evidence of what is constructed according to it; 3d, because the witness has only been interrogated as to whether the rack and tip bar on exhibit (K) correspond with the drawings on the Stainthorp patent; 4th, because irrelevant, incompetent, and immaterial.

Answer. I do not think defendant's exhibit (JJ) is in construction, principle, and operation like either the rack and tip bar described by plaintiffs' patent in suit, which I have read, or like the rack and tip bar which I have just described, shown in defendant's exhibit (K.) I think defendant's exhibit (JJ) is not designed to be permanently attached to the candle machine when in use.

Question 28. Look at defendant's exhibit (EEE.) it being a Stainthorp piston with a candle-tip mould in the upper end thereof, and state whether or not, in case a candle were moulded in a vertical stationary candle mould, two feet in length, it could be forced vertically entirely out such stationary mould by means of this exhibit; and you may state, further, whether this exhibit fairly represents pistons and candle-tip mould found in defendant's exhibit (J), it being the Stainthorp candle machine in suit.

Objected to by plaintiffs' counsel as irrelevant, immaterial, and incompetent, and the statement in the question—"exhibit (J,) it being the Stainthorp candle machine in suit"—is also denied, as being unwarranted by any evidence in this suit.

Answer. I do not think the result stated in the question could be attained by the use of the exhibit (EEE,) in the manner set
245 forth, and I think it does fairly represent the piston and tip mould found in defendant's exhibit (J.)

The witness being cross-examined by plaintiffs' counsel, testified as follows:

Cross-question 29. What is the length of exhibit (EEE)?

Answer. $15\frac{3}{4}$ inches.

Cross-question 30. Look at a copy of Stainthorp's patent now shown you, and state whether it is not stated in the patent that the candles are to be "ejected from the moulds" in which they are formed.

Answer. I find substantially that language.

Cross-question 31. Now, if the candle mould in which the candle is formed were two feet long, would not a fair construction of the patent require that the piston should be sufficiently long to eject the candle from the mould.

Objected to by defendant's counsel, on the ground: first, as immaterial; second, because the plaintiffs' patent in suit nowhere pro-

vides for or describes the ejection of candles entirely out of the vertical stationary candle moulds, &c.; third, the ejection of candles provided for by that patent is fixed by the terms as follows: "Will raise them slightly, and thereby loosen the candles in the moulds;" "when the candles are ejected by the pistons as before described;" by which no provisions are made for the entire ejection of candles from the stationary mould by any means whatever.

Answer. I am unable to say what might be adjudicated a fair construction of that patent.

Cross-question 32. Have you not already stated, in your cross-examination, that you find, in a copy of that patent, language showing substantially that the candles are to be ejected from the moulds?

Answer. No, sir; I stated in my answer to question 30, that I found language in that patent substantially like the language in that question.

Cross-question 33. Does not the patent state that the candles are to be ejected by the pistons?

Answer. The patent states as follows: "To accomplish this, suppose the candles ready for ejection, the tip-bars are thrown out as shown by the dotted lines (yy, fig. 2) when the candles are ejected by the pistons, as before described."

246 Cross-question 34. Does not the patent state, in these words, (MM,) the racks into which the candles are ejected when thrown from the moulds by the pistons?"

Answer. It does so state.

Cross-question 35. Now, if the candle mould in which the candle is formed were two feet long, would not, in your judgment, a fair construction of the patent require that the piston should be sufficiently long to eject the candle from the mould?

Answer. My judgment is, that if the candle mould were two feet long, a piston would be required of a length sufficiently to force the candle into the rack; I cannot say what a fair construction of the patent is in any respect.

Cross-question 36. Please state the length of the pistons above the movable platform which you say you find in exhibit (AAA;) and also what is the length of the tip moulds which you say you find in said pistons in said exhibit.

Answer. The length of that portion of the piston above the platform, as nearly as I can measure it, is about an inch and three-quarters; and I should judge that the length of the tip mould which I find in said exhibit is about three-fourths of an inch.

The defendant's counsel objects to both the last question and answer thereto, as immaterial for any of the purposes of this suit.

Cross-question 37. State whether or not the ends of the tips of the candles, formed in the candle moulds in this exhibit, could be elevated or raised by the platform and pistons therein to a greater distance than one inch.

Answer. My judgment is they could.

Cross-question 38. What is the vertical length of the ways in

which the ends of the movable platform slide in exhibit (AAA,) above said platform?

Answer. About one inch and five-eighths.

Cross-question 39. How far below the lower end of the stationary mould in exhibit (AAA) is the bottom of the tip-mould in that exhibit, when the platform is drawn fully down to the bottom of the ways?

The defendants' counsel interposes the same objection to the last question that he does to question 36.

Answer. The lowest portion of the tip-mould, by which I mean the cavity in which the tip of the candle is formed, when in the position spoken of in the question, I should judge to be about five-eighths of an inch below the lower extremity of the stationary mould.

247 Cross-question 40. What is the distance between the lower end of this cavity, and the upper surface of the shoulder which impinges against the bottom of the stationary mould where the platform on which these shoulders rest, is elevated to its full capacity?

Defendant's counsel makes the same objection as the last above, to the last question.

Answer. A little less than an inch.

Cross-question 41. Is not this space of a little less than an inch the only space through which the candle is elevated or raised in these moulds by the use of the platform and pistons or tip moulds?

Answer. It is not.

Cross-question 42. Would the end of the tip of the candle formed in these cavities be raised or elevated higher in the operation of the model (AAA) than the bottom of the cavity in which it is formed is raised or elevated?

Answer. Not any higher.

Cross-question 43. Then how do you make the space through which the candle is elevated in the candle mould in this exhibit greater than the space through which the tip of the candle is elevated therein?

Answer. I do not make it any greater.

Cross-question 44. What is the distance through which the candle is raised in the stationary moulds in the Humiston machine, by the use of the platform pistons or drive rods and tip moulds, compared to the length of the stationary candle moulds in those machines?

Objected to by defendant's counsel, as wholly immaterial, as the distance through which the candles are forced upwards is no part of plaintiffs' patent in suit, and is not a patentable matter.

Answer. The distance is something greater than the length of the stationary moulds.

Cross-question 45. The same question is here repeated in reference to the Stainthorp machine.

Defendants' counsel interposes the same objection as the last.

Answer. I understand that in the Stainthorp machine the distance the candle traverses by being ejected from the stationary moulds is also somewhat greater than the length of the mould.

Cross-question 46. Why should this distance be somewhat greater than the length of the mould?

Defendants' counsel makes same objection as last above.

Answer. For the purpose of allowing the candle to be
248 grasped or held by the clamps, or by the rack and tip bar, and also for the purpose of leaving the stationary moulds in a condition to be refilled.

Cross-question 47. Do you regard exhibit (AAA,) in respect to platform, pistons, or drive-rods and tip moulds, and stationary candle moulds, the same or substantially the same as either the Humiston or the Stainthorp machine, in principle, construction, or mode of operation?

Defendants' counsel objects to the last question, on the ground that there is no pretension on the part of the defendant that this exhibit (AAA) contains drive-rods or flexible joints like that of the Humiston machine, but in every other respect, with the exception of the clamps above the moulds, to clamp and hold the candles, it is claimed by the defendant that this is the same in principle and purpose as the Humiston machine in suit.

Plaintiffs' counsel withdraws the last question for the present.

Cross-question 48. In your direct examination you enumerate the several devices through which the wick is passed in exhibit (AAA;) you will please state how it is held at its upper end so as to prevent its falling back after being so passed the several devices you have named.

Answer. The wick, at its upper end in exhibit (AAA,) is attached to a hook at the end of a cord, which cord passes over and is fastened to a roll; by this means, after the candle is drawn up, it is held in place by the roll being firmly held in its place by means of an endless cord which passes over a pully at the end of the roll.

Cross-question 49. What do you mean by the term "functions," as used by you in your direct examination in answer to the eighth interrogatory?

Answer. I mean by the term "functions," as used by me in that answer, the particular service assigned to and performed by each of the several parts enumerated therein the process of moulding candles.

Cross-question 50. What particular service or function is performed by the tip moulds in the Humiston machine; state fully?

Answer. When lowered to its proper position, at the bottom of the stationary candle mould, the wick having been previously passed through the same and properly secured at its upper end, the service performed by the tip mould in the Humiston machine is to shape the tip of the candle, and, in conjunction or combination with the other devices enumerated in the answer to the eighth interrogatory, to force the candle upward into the clamps which are to receive
249 and hold the same; and also, if, during this process, the candle should accidentally deviate from a perpendicular line in entering the clamp, to accommodate or adjust itself to this new position of the candle in such a way as to avoid breaking or injuring the same.

Cross-question 51. Have you now fully stated the services or functions which are performed by the tip-moulds in the Humiston machine?

Answer. As fully as they occur to me at present.

Cross-question 52. Do you mean to state that the tip-moulds, in connection with any other device or devices in exhibit (AAA,) force the candles upward into clamps or any other mechanism above the stationary moulds to receive and hold them?

Defendant's counsel objects to the last question as immaterial for any of the purposes of this suit, and also immaterial as to what distance candles are forced vertically upward in exhibit (AAA) by the means there shown; and, second the plaintiffs' patent in suit is not for an organized machine for making candles, as called for by the question, but is for the employment of pistons formed at their upper ends into moulds for the tips of the candles in combination with stationary candle moulds, to throw out the candle in a vertical direction, which is all that is covered by the first claim of plaintiffs' patent.

Answer. Such tip mould in exhibit (AAA) force the candles upward out of the stationary moulds, so that these hooks, attached to the cords which I have before described, may be attached to the candle wicks for the purpose of removing the candle entirely from the mould.

Cross-question 53. Question 52 is repeated, and the witness is requested to state whether the candles can be forced out of the stationary moulds in exhibit (AAA) by the use of the tip moulds therein in connection with the other devices there shown?

Defendants' counsel interposes same objection as the last.

Answer. I suppose, in the ordinary operation of this exhibit, the candles would not be forced entirely out of the moulds by the means of the candle-tip moulds operating in connection with the other devices shown on the model.

Cross-question 54. Then you find one function or service which you have enumerated as being performed by the tip moulds in connection with other devices in the Humiston machine, to wit, forcing the candle upward out of the stationary moulds into clamps, is not performed by the tip moulds and other devices found in exhibit (AAA,) do you not?

The defendant's counsel makes same objection as last above to this question.

Answer. I think I have not enumerated among the functions performed by the tip mould in the Humiston machine "forcing the candle upward out of the stationary moulds," and for that reason I cannot answer the question in its present form.

Cross-question 55. Have you not given the forcing of the candle upwards into the clamps which are to receive and hold the candles as one of the functions performed by the tip moulds, in connexion with other devices in the Humiston machine?

Answer. I think I have so stated.

The last question and answer also objected to for the same reason by defendant's counsel.

Cross-question 56. You will please state whether the candles are

not forced out of the stationary moulds in the Humiston machine by the use of the tip moulds and the other devices referred to?

Defendant's counsel makes same objection as the last.

Answer. In all of the Humiston machines which I have ever seen operated, the candles were so forced out the stationary moulds.

Cross-question 57. About how many Humiston machines have you seen operated, and for about what length of time?

Answer. Perhaps a half a dozen, I cannot state precisely, within the last five years.

Cross-question 58. About what length of time altogether have you seen any of the Humiston machines operate?

Answer. I have been present when they were in use long enough at one time to witness the process of making candles.

Recess to 3 o'clock p. m.

Adjourned to 9 o'clock a. m. Thursday, December 31, 1863.

THURSDAY, *December* 31, 1863—9 o'clock a. m.

The further cross-examination of the witness, Scott, was here proceeded with in the presence of the aforesaid counsel.

Cross-question 59. State what functions or service can be performed by the tip moulps in exhibit (AAA) in the connexion with the other devices therein shown, other than moulding or forming the tips of the candles?

251 Answer. They perform the function of driving the candle from the stationary mould.

Cross-question 60. Please state what you mean by drawing the candle from the stationary mould, as mentioned in your last answer.

Answer. Forcing the candle out of the mould sufficiently to enable it to be removed by means of the mechanism shown in defendant's exhibit, (AAA,) or by any other apparatus adapted to that purpose.

Cross-question 61. How much of the candle would be forced out of the mould in exhibit (AAA?)

Answer. Perhaps one-sixth of its length.

Cross-question 62. What do you mean by the term "principle," used by you in answer to the 12th interrogatory?

Answer. The qualifications shown in the exhibits referred to in that interrogatory, and common to them both, which are essential in each of these exhibits to the moulding of candles. I may further add the adaptation of certain means in the manner shown in those exhibits, and the operation of such means as therein shown for the accomplishment of the result before mentioned, namely, the moulding of candles.

Cross-question 63. Have you stated fully in your last answer what you mean by the term "principle," as used by you in your answer to the 12th direct interrogatory?

Answer. I think I have.

Cross-question 64. What "qualifications" do you refer to in your answer to 62d interrogatory as being common to both exhibits?

Answer. The direction in which they operate is one, their attachment to a platform below is another, and the passing of the wick

entirely through each of them is another. I mention these qualifications, being the principal ones that occur to me at the present time.

Cross-question 65. Do you mean to be understood that candles could be moulded by either of these exhibits?

Answer. I do not.

Cross-question 66. What part of exhibit (CCC) do you call the tip-mould.

Answer. Technically, I suppose the term "tip-mould" is applicable only to the cavity in the upper end of this exhibit, and I think in one of my previous answers I alluded to it in that sense, but generally I have used the term "candle-tip mould" as applicable in exhibit (CCC) and (AAA) to all that part above the "shoulder," and in the Humiston machine the part above the loose joint, and in the
252 Stainthorp machine and exhibit (EEE) I have considered as the tip-mould all that part which is cast and rigidly fastened to the tin tube or piston which is shown in the upper part of exhibit (EEE.)

Cross-question 67. Then, in exhibit (AAA,) you find only the tip-mould and shoulder above the movable platform, do you?

Answer. That is all.

Cross-question 68. In the Humiston and Stainthorp machines what part of the mechanism or drive-rods for ejecting the candles from the moulds do you find above the movable platform to which they are attached?

Objected to by defendant's counsel as immaterial for any of the purposes of this suit.

Answer. I can't answer that question; it is ambiguous; I can't understand it.

Cross-question 69. What device, above the platform, do you find in the Humiston and Stainthorp candle-machines for ejecting the candles from the moulds in which they are formed?

Answer. In the Humiston machine I find a device consisting of two parts; the upper part I have termed the tip-mould, and the lower part the drive rod; these are coupled together by a loose joint; the lower end of this drive-rod is attached to the movable platform. In the Stainthorp machine I find a hollow piston-rod with a short candle-tip mould permanently fastened to it at its upper end, and this drive-rod or piston is attached, at its lower extremity, to the movable platform.

Cross-question. 70. About how far above the movable platform are the tip-moulds in each of these last two mentioned machines usually placed?

Objected to by defendant's counsel: 1st, as wholly immaterial for any of the purposes of this suit; and, 2d, the distance of the candle-tip mould above the movable platform called for by the question is no part whatever of plaintiff's patent in suit; and, 3d, the distance inquired about being entirely immaterial in view of the first claim of plaintiff's patent upon which plaintiff's pretended claim against defendant is founded.

Answer. In the Humiston machine the distance is about twelve inches, as shown by the exhibits now before, and in the Stainthorp

machine the distance is about 13 or 13½ inches, as shown by exhibit (EEE) now before me.

Cross-question 71. If in exhibit (AAA) you find only the shoulder and tip-mould above the movable platform, as you have stated, and in the Humiston and Stainthorp's machines you find tip-
253 moulds from 12 to 13½ inches above the movable platform operated in each case as you have stated, how do you find the principle and operation the same in each of these machines?

Objected to by defendant's counsel: 1st, as immaterial for any of the purposes of this suit; and, 2d, because the action or movement of the platform with candle-tip moulds connected therewith by short or long drive-rods, or otherwise, is no part of plaintiffs' patent in suit, and especially so in view of the combination in the first claim of plaintiffs' patent upon which the pretended claim againt defendant is founded.

Answer. I do not regard the length of the drive-rod in the Humiston machine or the length of the piston rod in the Stainthorp machine, or the length of the tip-mould in exhibit (AAA,) as constituting any part of the principle of either of these machines; and, as I understand the Humiston and Stainthorp patents, the distances are not so regarded in either of those patents; candles may be made either in the Humiston machine, the Stainthorp machine, or exhibit (AAA,) and forced from the stationary moulds in each of these machines, and the only difference in the result attained is in the manner of receiving and removing the candles after they have been so forced upward from the stationary moulds; and I find that the operation of forcing the candle from the moulds in each of these machines is substantially the same, the only difference being in the distance which the candles are forced upward, which I do not conceive enters into the principle of either of these machines; the mode of operation in each case is the same, but the extent of the operation may be different.

Cross-question 72. Have you, in your last answer, fully given your reasons for discovering no difference in the principle and mode of operation of these machines as stated by you in your direct examination?

Answer. I think so, so far as relates to the principle and operation of forcing the candles from the moulds.

Cross-question 73. What do you mean by the term "forcing the candles from the moulds," and by the term "forced from the stationary mould," and by the term "forcing the candle from the mould," as used by you in your answers to the last and the preceding question?

Answer. Starting the candle upward by means of the various devices, before spoken of, thereby destroying contact between
254 the stationary mould and the candle sufficiently to allow the candle to be grasped and removed from the mould or from the machine.

Cross-question 74. In the operation of the Humiston or Stainthorp machines, or of exhibit (AAA,) in removing the candle from the mould, when would the contact between the candle and the stationary mould be destroyed?

1305

Answer. The moment the candle is started.

Cross-question 75. Do you mean to say that there would be no contact between the candles in the stationary moulds in the machines and exhibit last referred to, after the candles had been started upward from the bottom of the stationary moulds?

Answer. I mean that there would be no adhesion, and possibly no contact, for the reason that the candle being tapered might stand in the tip-monld in the machine without coming in contact at all with the sides of the stationary mould.

Cross-question 76. Then you do not mean, do you, that the candles could be forced upward out of the moulds in exhibit (AAA,) or a machine made like it?

Answer. Not entirely out of the moulds.

Cross-question 77. In machines made like the one described in the Stainthorp patent, and also like those made and sold by Humiston, the candles would be forced entirely out of the stationary moulds, would they not?

Answer. They could be so forced entirely out of the moulds.

Recess to 2½ o'clock p. m.

Cross-question 78. Would the candles be grasped and held firmly in the mechanism marked defendant's exhibit (JJ,) if used on the machine marked defendant's exhibit (J)?

Answer. I think they would.

Cross-question 79. What is the use of the elastic strip at the bottom of the candle holes on exhibit (JJ)?

Answer. I suppose that is for the shoulder of the tip of the candle to rest upon, after the candle has entered the clamp, and the candle-tip mould has been drawn down.

Cross-question 80. Are the candles griped and held firmly in the clamp in Mr. Humiston's machines?

Answer. They are.

Cross-question 81. What is the object in using a canvas lining on the Humiston clamps, as shown in exhibit (H)?

Answer. I suppose it is to obviate the danger of injuring, defacing, or breaking them, by presenting a soft and yielding surface to the candles.

255 Cross-question 82. Do you find any device or means to prevent the candles sliding down out of the clamps in the Humiston machine, except the pressure upon the candles which is made by the clamps on these machines?

Answer. I do not.

Cross-question 83. Are not the candles held up by the elastic strip, sometimes called the tip bar, in the clamps, marked defendant's exhibit (JJ?)

Answer. They may be supported by that elastic strip, or by the pressure upon the candles exerted by the clamps. I cannot say whether the candles are supported by the elastic strip in defendant's exhibit, (JJ,) or by the pressure exerted by the clamps, having never seen said exhibit in practical operation.

Question 84. How would you centre the candles over the stationary moulds in exhibit (AAA,) or a machine like it?

Objected to by defendant's counsel, 1st, as immaterial, because the centering of the wick by any device is no part of plaintiffs' patent in suit, for the centering of candle wick in vertical stationary candle moulds was patented to defendant December 25th, 1851, and by reissue of that patent, January 22d, 1861, and the centering of candle wicks in vertical stationary moulds by means of clamps was patented to defendant July 24, 1855, and by reissue of that patent bearing date January 22, 1861, in the following words and letters, to wit: "The adjusting and holding the wick for the candles in the centre of the said moulds or tubes (B) by the use of said clamps (F,) and the candles therein firmly secured by means thereof, in connexion with the said candle-tip mould (a,)" substantially as described in that patent, marked defendant's exhibit (X,) and also in defendant's exhibit (V.)

Complainants' counsel objects to the foregoing statement, or any part thereof, being taken or used as evidence in this cause.

Answer. I discover no way of centreing the wicks in that exhibit other than by means of the rolls, cords, and hooks shown therein.

Cross-question 85. Do you think the rolls, cords, and hooks shown therein, furnish a practical and successful way of centering candle-wicks, as required in the manufacture of candles?

Objected to by defendant's counsel as immaterial for any of the purposes of this suit.

256 Answer. My opinion is, that the method is not as good as that shown in either the Stainthorp or Humiston machines. I refer to defendant's exhibits (H) and (J.) I could not state whether the mode of centering the wicks by means of the mechanism shown in exhibit (AAA) is a practicable and successful one without experiment.

Cross-question 86. Give your best judgment on that subject.

Same objection by defendant's counsel as the preceding question.

Answer. I do not think it would prove either practicable or successful, but still it might.

Cross-question 87. Do you include in exhibit (J,) referred to in answer to the 85th interrogatory, the clamps, marked defendant's exhibits (JJ,) as a part of exhibit (J?)

Answer. I do.

Cross-question 88. How would you apply the Humiston's clamps to exhibit (AAA,) as referred to in the direct examination?

Answer. I would lengthen the candle-tip moulds in exhibit (AAA) sufficiently to throw the candles entirely out of the stationary moulds; I could then remove the superstructure above the moulds shown in the same exhibit, and attach the Humiston clamps in the ordinary way.

Cross-question 89. After you had made these alterations, would you regard the model—defendant's exhibit (AAA)—the same, or substantially the same, in construction and mode of operation, as it is in its present form and arrangement?

Answer. Substantially the same, except as regards clamping the candles and centering the wicks.

Cross-question 99. How would you force a candle out of a stationary mould by the use of a short piston?

Answer. The candle would not be forced out of the stationary mould any greater distance than the tip mould is elevated.

Cross-question 91. What is your age, and where do you reside?

Answer. My age is 25; and I reside in the city of Troy.

Cross-question 92. Enumerate all the patent cases in which you have heretofore given testimony as an expert.

Answer. I have already enumerated the cases on my former examination in this suit.

Cross-question 93. Please refer to the 52d page of the printed record in this case, and state whether that is the enumeration of patent cases in which you have been examined, and which you refer to in your last answer.

257 Answer. It is.

Cross-question 94. Was Mr. Norton, the defendant's counsel in this case, also counsel for the parties for whom you were examined in each of the other cases?

Answer. I think he was.

Cross-question 75. In what capacity and business are you now employed?

Answer. I am employed as a bookkeper in the office of the collector of internal revenue for the 15th collection district in this State, here in Troy.

Cross-question 76. How long have you been so employed?

Answer. About 13 months.

Cross-question 97. Have you, within the last 13 months, been examined as an expert in any patent case other than this Humiston case?

Answer. I never was examined as an expert in any case.

Cross-question 98. Have you testified as a witness in any patent case other than this within the last 13 months? If you have, in what case?

Answer. I was examined in the cases of Shavor and others against Hagan about stoves, and in an interference case between Bawlsby and others. This was for a mode of canceling postage and revenue stamps, and in the present suit; and, I think, in the case of Waters against Percy & King, within the last 13 months.

Cross-question 99. Were you in the employ of the defendant's counsel, Mr. Norton, previous to going into your present employment, or were you doing business in his office?

Answer. I did business in his office on my own account.

Cross-question 100. Do you profess to be an expert in mechanics, and especially in candle machinery?

Answer. I am not an expert in mechanics by profession, nor an expert by profession in candle machinery.

Cross-question 101. Have you made, sold, or used candle machines, or have you superintended the manufacture, sale, or use thereof?

Answer. I have never made, used, or sold candle machines, nor have I ever superintended the manufacture, sale, or use thereof.

Direct examination resumed by defendant's counsel.

Question 102. Did you ever receive, in any patent case, a cash retainer of $100, or any other sum, as a professional expert, or as a witness in any such case?

258 Objected to by complainants' counsel as entirely irrelevant and immaterial to the issues between the parties in this case.

Answer. I never received, in any patent case, a cash retainer of $100, or any other sum, as a professional expert, or as a witness, in such case.

Question 103. Did you ever receive a eash sum of $25 per day as a professional expert, or as a witness, in any patent or other case?

Objected to by complainants' counsel for the same reasons as preceding question.

Answer. I never received a cash sum of $25 per day as a professional expert or as a witness in any patent or other case.

Question 104. Did you ever receive any pay or compensation for the time which was occupied for your examination as a witness in the several cases enumerated by you on this and your former examinations?

Answer. Not to my recollection; I know that I never have in this case.

Question 105. Are you sufficiently acquainted with different mechanical inventions, machinery, especially candle machinery, concerning which you have been examined on this examination, so that you could make drawings in perspective, in detail, or otherwise, of the same as a whole, or of the various parts thereof? and if so, name particularly the candle machines in suit of which you can make such drawings.

Objected to by complainants' counsel.

Answer. I am sufficiently well acquainted with different mechanical inventions, machinery, and especially candle machinery, concerning which I have been examined on this examination, so that I could make drawings in perspective, in detail, or plans, and elevations of the same as a whole, or the various parts thereof, and I can make such drawings of any of the machines in this suit, and particularly of the Stainthorp and Humiston machines, and also of defendant's exhibit (AAA.)

Question 106. After having made such drawings as testified by you in your last answer, could you then go on and describe in writing the construction, principle, and operation of the machinery represented by such drawings?

Answer. I could so describe the same.

Question 107. Have you any doubt but that you perfectly understand the contruction, the mechanical principle, and the operation of the Stainthorp candle machine, and of the Humiston candle machine in suit, and also of defendant's exhibit (AAA,) and other exhibits about which you have been examined on this examination?

259

Answer. I have no doubt but that I perfectly understand the same, as regards principle, construction, and operation.

Question 108. In the Stainthorp candle machine in suit, can the tip of the candle—I mean that part formed by the candle-tip mould—be

seized by any device for the purpose of holding the candle, while such tip remains in such candle-tip mould ?

The complainant's counsel objects to the last question, as it does not appear that the witness has ever seen a Stainthorp machine operated in the manufacture of candles, or that he has ever seen used the devices referred to in the manufacture of candles.

Answer. It cannot.

Question 109. Are the candles in the Stainthorp candle machine and in the Humiston candle machine in suit, and in defendant's exhibit (AAA) forced vertically upward, starting and loosening thereby such candles from the vertical stationary candle moulds, and, if so, do they pass upward thus from the lower end of said stationary candle moulds through a certain equal space for a distance of one inch or so ?

The last question objected to by complainant's counsel as obscure, and because the subject-matter of this inquiry has already been fully stated by the witness on this present examination.

Answer. The candles in the Stainthorp machine and in the Humiston machine in suit, and in defendant's exhibit (AAA,) are forced vertically upward, starting and loosening thereby such candles from the vertical stationary candle moulds, and may pass upward from the bottom end of said stationary candle moulds, through a certain space, for the distance of an inch or so.

Question 110. Is not the starting from the candle moulds the candles, and of forcing such candles vertically upward, common to the machinery inquired about in cross-question No. 62, and in your answer thereto—I mean the Humiston candle machine, the Stainthorp machine in suit, and the defendant's exhibit (AAA ?)

Objected to by complainants' counsel, as the question and answer referred to appeared to relate to what the witness means by the term "principle," as used by him, and not to the machines referred to in this question.

260 Answer. The starting of the candles from the candle moulds, and the forcing of the same vertically upward is common to the machines inquired about in cross-question No. 62, and also in this question.

Question 111. In cross-question No. 69, you are asked what device in the Stainthorp and Humiston machines is above the platform for ejecting the candles from the stationary moulds. Is the device in the Humiston machine the same device as that in the Stainthorp machine used for that purpose ?

Complainant's counsel objects to this question in the form given, and he objects to the inquiry being put to the witness in the words "the same device" as used in the question, as incompetent, and also because the witness has heretofore, on this examination, fully described the devices referred to.

Answer. The device in the Humiston machine is essentially different from the device found in the Stainthorp machine for the purpose of ejecting the candles from the stationary moulds. I allude to the devices above the platform and connected therewith, known in the

Humiston machine as the drive-rod and candle-tip mould, and in the Stainthorp machine as the piston with tip mould in the upper end thereof. These devices are used to accomplish the same result.

Question 112. In answer to cross-question No. 76, you state that defendant's exhibit (AAA) will not eject candles entirely out of the stationary moulds. What would you do to that machine or exhibit so as to force the candles *entirely* out of the vertical stationary moulds therein.

Objected to by plaintiff[1]s counsel, as already answered by the witness on his direct examination.

Answer. To force the candles entirely out of the stationary moulds in exhibit (AAA), nothing more would be necessary than to elongate the tip mould to the length necessary to accomplish this purpose.

Question 113. In the Stainthorp machine, having on clamps like defendant's exhibit (JJ,) and were the candle-tip moulds forced above the elastic strip in that device, where would such elastic strip first seize the descending candles at the body of the candles, just above the tip, or at any part of the tip?

Objected to by complainants' counsel, as it does not appear that this witness has ever seen such elastic strip seize the candle, either on the tip or the body of the candle, nor does it appear that the witness has ever seen exhibit (JJ) used for the purpose in-
261 quired about, or for any other purpose than as an exhibit in this case, nor does it appear that the witness has ever seen used clamps like the exhibit referred to, and because the witness has already stated that he cannot tell whether these clamps press and hold the candles or not, he not having seen them used.

Answer. It would seize the candle at the body just above the tip, in my judgment, if the candle holes in exhibit (JJ) were so large as to allow the tip mould, together with the candle, on the platform being lowered, to recede from said candle holes without the same being grasped by the clamps before the tip mould, containing the tip of the candle, had reached the said elastic strip.

Question 114. In the Stainthorp machine, with defendant's exhibit (JJ) thereon for clamps, could not the candles be clamped thereby and held without carrying the candle tip moulds up to, or beyond the elastic strip shown in the device?

Plaintiffs' counsel interposes same objection as last above.

The defendants' counsel here hands the witness a candle and asks him to put the same in the clamp (exhibit JJ,) and see whether said clamp will press and hold it when closed up, to which test and trial, by the witness, the complainants' counsel objects, and states that it is quite likely that a candle of the size of the one tried in the clamps by the witness might be pressed and held there, said candle being rather larger in diameter than the candle holes in exhibit (JJ.)

The defendant's counsel replies, and states that in view of the objection he procured an ordinary sperm candle which defendant's counsel keeps in his office for the purpose of going into his cellar for coal and other material, and for other purposes, which is handed the witness for the purpose of making a fair, practical test with this de-

vice of the matter inquired about, that the complainants' counsel objecting to this is merely pettifogging.

Answer. I find, by experiment with exhibit (JJ,) and a candle of ordinary size, that said exhibit will clasp and hold a candle when the tip of the candle is lower than the elastic strip before mentioned; I am satisfied that when the Stainthorp machine in suit is used with clamps constructed (like exhibit JJ,) and the candles have been forced upward into the clamp, they may be grasped by the clamp and firmly held, although the tip of the candle may remain below this elastic strip.

262 Question 115. From the experiments you have just made please state whether or not a candle made in the candle mould of defendant's exhibit (N) can be clamped in defendant's exhibit (JJ) and there firmly held while the entire tip of the candle is above the rubber strip referred to.

Complainants' counsel objects to the last question as immaterial, incompetent, and irrelevant.

Answer. It can be so clamped and held.

Question 116. State the size of the candle with which you have just experimented as compared with defendant's exhibit (N?)

Answer. When dropped tip downward into the larger end of exhibit (N,) held vertically, it falls of its own weight, so that the end of the tip falls seven and a half inches into said exhibit (N,) the candle itself being five and a half inches long, and the length of the mould being ten and one-quarter inches.

The witness, being re-cross-examined, testified as follows:

Cross-question 117. Please refer again to exhibit (AAA) and state whether, in your judgment, all that would be necessary to be done to that exhibit in order to eject the candles entirely out of the moulds would be to elongate the tip moulds in that exhibit.

Answer. The rest of the machine, that is to say, the ways in which the platform slides, and the mode of applying the power to force the tip moulds upward, would obviously require modification, so as to be adapted to the change in the length of the tip moulds.

Cross-question 118. State whether or not you desire to correct your answer to the 112th interrogatory so as to correspond with your last answer in relation to the matters therein mentioned.

The defendant's counsel objects to the last question, 1st, because the question assumes that some kind of a correction is necessary, in view of the answer to the last question; and, 2d, because no correction is necessary in order to make the last answer harmonize with that to question No. 112.

Answer. The alterations mentioned in my last answer, other than the elongation of the tip moulds, I presumed, when I answered the 112 interrogatory, would be inferred as a necessary consequence of elongating the tip moulds.

263 Cross-question 119. State whether the only difference you refer to in this examination between the drive-rods and tip moulds in the Humiston machine, and the drive-rods or pistons and

tip moulds in the Stainthorp machines, consists in the loose joint that you have mentioned as being in the Humiston drive-rod?

Answer. This is the essential difference of which I spoke in a previous answer, and I think the only substantial one.

The re-direct examination being resumed by the defendant's counsel, the witness testified as follows:

Cross-question 120. Are you in any manner prejudiced in favor of the defendant in this suit, and have you any prejudices against the plaintiffs?

Answer. I have no prejudices in favor of the defendant or against the plaintiffs, or either of their counsel in this suit.

FRANKLIN SCOTT.

Subscribed and sworn to before me this 31st day of December, 1863.

JOHN T. LAMPORT,
U. S. Examiner.

Harold C. Gale, a witness by and on behalf of defendant, was produced, and being by me duly sworn, testified as follows, at Troy, N. Y., Dec. 30, 1863, at 3 o'clock p. m.:

Question 1. What is your name, age, residence, and occupation, and how long have you resided there?

Answer. My name is Harold C. Gale; my age is 26; I reside in Hudson, N. Y.; and I have resided there for the past 8 years; I am by occupation a soap and candle manufacturer.

Question 2. How long have you been engaged in the business referred to?

Answer. 2 years and 7 months at Hudson.

Question 3. While engaged in that business there, have you ever received circulars from Stainthorp & Co., of New York, plaintiffs; and if so, state whether the one now shown you, and here marked by the examiner, defendant's exhibit (FFF) is the same in kind and character?

Objected to by complainants' counsel, and also the reception in evidence of said exhibit is objected to.

Answer. Yes, we received them, and they were of the same kind and character.

264 Question 4. Have you to-day examined defendant's exhibit (J,) including the clamps thereon, marked defendant's exhibit (JJ;) and if so, what do they represent?

Answer. They represent Stainthorp's machine with clamps connected; I have examined them to day.

Question 5. Are you a member of the firm of Gale & Hover, of the city of Hudson; and if so, did your firm ever own these exhibits referred to in your last answer, and to whom did you sell them, if to any one?

Answer. I am one of the firm of Gale & Hover, of Hudson; we owned the machine referred to; we sold the machine and the clamps now connected with it, handle and all, to the defendant, Humiston; we sold to him about a year ago last September.

Question 6. Have you ever had in actual use that machine or exhibit (J,) including the clamps, exhibit (JJ;) and if so, when and where?

Answer. We had it in use, the machine and clamps, at the city of Hudson from May, 1861, to the time we sold it to Humiston.

Question 7. Heve you ever had any other of these Stainthorp's machines in use; and if so, when and where, and about how many?

Objected to by plaintiff's counsel as assuming.

Answer. We have had others of the Stainthorp machines in use at Hudson, the same place as this one; we had four more of them in use from May, 1861, to September, 1863.

Question 8. Were these machines in any way marked with the name of the inventor, and the date of his alleged patent; and if so, how and in what part or parts of the machine in question?

Objected to by plaintiff's counsel as leading, irrelevant, incompetent, and immaterial.

Answer. The machines were all marked on each end of the body "John Stainthorp, New York, patented March 6, 1855."

Question 9. Does the cut or not, on defendant's exhibit (FFF,) correctly represent those machines which you have above referred to, and which you had in use in your manufactory?

Objected to by plaintiff's counsel as irrelevant.

Answer. I think it does.

Question 10. Please state how these machines, which you have above testified to, worked in the manufacture of candles?

265 Answer. They worked badly by breaking our candles, and the tips also, so much so that we threatened many a time to set them aside and not use them.

Question 11. Then you mean to be understood, do you not, that you could not manufacture candles by these machines at one time and operation thereof, without breaking candles, marring them, and breaking their tips more or less during each operation?

Objected to by plaintiffs' counsel as assuming and leading.

Answer. I do.

Question 12. Have you had in use any of the Humiston candle machines?

Answer. We have.

Question 13. About how many, and when and where?

Answer. One machine from September, 1862, to September, 1863, about one year, at Hudson, N. Y.

Question 14. How did that machine work in the manufacture of candles during that time?

Answer. It worked perfectly satisfactory.

Question 15. Did you ever break any candles, mar them, or break any of their tips, or otherwise render them unfit for market, by the use of that machine?

Answer. No, sir.

Question 16. As between the Humiston and the Stainthorp candle machines, in and by which machine could you make the most marketable candles in the same length of time?

Objected to by plaintiffs' counsel as incompetent, irrelevant, and immaterial.

Answer. We could make more than double the quantity of marketable candles by one of the Humiston machines than we could with one of Stainthorp's in the same length of time and with the same material. We have tried them side by side, and at all seasons of the year.

Question 17. Which machine, the Humiston or the Stainthorp, would you purchase for the purpose of manufacturing candles?

Same objection as the last above.

Answer. I should purchase the Humiston machine. I would not work the Stainthorp machine if it were given to me. It is more trouble to work them than they are worth.

Question 18. Then you mean to be understood by your last answer, do you not, that the Stainthorp candle machine is a worthless thing in the manufacture of candles, in quality and quantities, by the same operation?

266 Answer. I say they are worthless compared with the Humiston machine.

Question 19. Look at defendant's exhibit (K) now shown you, and state whether or not any of the Stainthorp candle machines which you have above testified to ever contained a rack and tip-bar, and candle-wick clasp like that, or that exhibit, in construction, principle, and operation.

Plaintiffs' counsel objects to last question, as the witness does not appear to be an expert in the construction of machinery, or a judge of its "principle."

Answer. Those that we used had nothing like it.

Question 20. Please examine defendant's exhibit (JJ,) and state whether the clamps used on your machines, above referred to, were like this exhibit in construction and operation.

Answer. They were just like it in all the Stainthorp machines.

Question 21. As a practical candle manufacturer, do you consider the track and tip-bar and wick-clasp, on defendant's exhibit (K,) the same in construction and operation as defendant's exhibit (JJ)?

Plaintiff's counsel objects to the last question, as this witness is not an expert as to the matter inquired about, and because it is irrelevant, incompetent, and immaterial.

Answer. I should call them entirely different.

Question 22. About how much would you, as a practical candle manufacturer, be willing to give for a Stainthorp candle machine for making candles?

Objected to by plaintiff's counsel as irrelevant and immaterial.

Answer. Being acquainted with the Humiston machine I would not buy one of the Stainthorp machines; I would first use the old-fashioned hand moulds like defendant's exhibit (BB) and thus give my customers satisfaction, which I never could with the Stainthorp machine.

Question 23. Have you ever heard practical candle manufacturers from different localities say anything concerning the present utility of the Stainthorp candle machine?

Plaintiffs' counsel objects to the last question as incompetent, irrelevant, and immaterial.

Answer. I have.

Question 24. What have you heard them say; give the name and residence of the parties, as near as you can remember?

267 Plaintiffs' counsel objects to the last question as irrelevant, immaterial and incompetent, and because the statements of parties to the witness cannot be taken or used as evidence in this case.

Answer. I have heard them complain to us of breaking and marring the candles and tips, Scott & Co., of Poughkeepsie; Trowbridge, of Catskill, manufacturers of candles; these are the only ones that I remember of that complained to us.

Question 25. During the time that you have named as being engaged in the manufacture of candles, by the Stainthorp machine, did you usually sell candles with broken tips made by these machines, and if so, give the names of the most prominent houses to whom you so sold candles; state fully in relation thereto, as nearly as you can?

Answer. We sold candles with broken tips, as it was not possible for us to make them otherwise with the Stainthorp machine; we sold them to Garbult, Black & Hendrick, at or near 68 or 70, Chambers street, New York; Quackenbush and Hamilton, both wholesale dealers—the last is in West street, New York, near Warren street; S. M. Cooley, of Pittsfield, Mass.; George A. Murdock, of the same place; T. E. Bushnell & Son, Saratoga Springs; J. H. Wager, of the same place; S. M. Birmingham, wholesale dealer of Albany; House & Wattles, of Hudson, Payne & Rayner, of Hudson. I can give you other names in different places, if required.

Question 26. Are you personally acquainted with the complainants in this suit, or either of them?

Answer. I am not.

The witness, being cross-examined by the plaintiffs' counsel, testified as follows:

Cross-question 27. How long have you been acquainted with the defendant in this suit?

Answer. I became acquainted with him to-day.

Cross-question 28. How did you happen to come here and be examined as a witness for him?

Answer. Mr. Norton sent for me; the defendant's counsel.

Cross-question 29. What branch of the business of your firm do you attend to, and when was the firm of Gale & Hover formed?

Answer. It was formed in May, 1861, and I used the machines myself in the manufacture of candles.

268 Cross-question 30. Have your firm any superintendent or foreman who oversees the manufacture of candles in your establishment?

Answer. We have none except ourselves; we superintend our business.

Cross-question 31. How many hands do you employ in the manufacture of candles?

Answer. While manufacturing candles we did the work ourselves; we hired the packing of them sometimes.

Cross-question 32. How long since you ceased to manufacture candles?

Answer. In September, 1863.

Cross-question 33. Are you a relation of Mr. Gale, one of the defendant's counsel in this case?

Answer. No, sir; I do not know him.

Cross-question 34. What means, if any, did your firm use for manufacturing candles besides the Stainthorp machines, referred to in your direct examination, between May, 1861, and September, 1863?

Answer. We had no other kind of machine at all until September, 1862, when we got the Humiston machine.

Cross-question 35. Then, from May 1861, until September, 1862, your firm used the Stainthorp machines altogether, did they not, for making candles?

Answer. They did.

Cross-question 36. When did your firm procure each of the five Stainthorp machines?

Answer. In May, 1861.

Cross-question 37. Who procured said machines, yourself or partner?

Answer. I procured them myself.

Cross-question 38. Had they or either of them been used before you procured them?

Answer. They had all been used before we procured them, at the same place where we did business.

Cross-question 39. Had you or your partner been acquainted with the machines, or either of them, or with their operation and work before you purchased them?

Answer. I was acquainted with them for about two years before that, but I had never worked them or either of them, nor did I know what kind of work they made.

Cross-question 40. Of whom did your firm purchase them?

Answer. Of John J. Gaul, of Hudson, who had previously carried on business at the same place. We bought the factory building and land, and machines, apparatus, and fixtures altogether.

269 Cross-question 41. What was paid by your firm for these five machines, or what were they valued at when you purchased them in May, 1861.

Answer. The fixtures and everything were all bought in a lump for so much.

Cross-question 42. Do you mean to say that your firm did not pay anything for these five machines called Stainthorp machines?

Answer. I don't mean to say any such thing. We bought and paid so much for the whole establishment, including everything belonging to it.

Cross-question 43. Where does Mr. Gaul now reside, if living?

Answer. In the city of Hudson.

Cross-question 44. During what portion of the time did your firm use these five machines between May, 1861, and September, 1862?

Answer. We used them more or less all the time during winter, summer, and fall, during all the seasons.

Cross-question 45. What portion of time did your firm use these five machines, or any of them, after September, 1852, and before you gave up the candle business in September, 1863?

Answer. After we got the Humiston machine in September, 1862, we did not use these machines much, as we took the Humiston machine and had it worked by another candle manufacturer, who owned five other Humiston machines, I think, and we had our candles from them, because the candles from those machines gave better satisfaction to our customers.

Cross-question 46. What was the name of the person who manufactured candles for your firm by the use of the Humiston machine after September, 1862?

Answer. Trowbridge & Co., of Catskill, N. Y.

Cross-question 47. How long did Trowbridge & Co. continue to manufacture candles for your firm after September, 1862?

The last question objected to on the ground that it is immaterial for any of the purposes of this suit, and because it is unnecessarily prolonging the cross-examination of the witness.

Answer. They have manfactured more or less for us up to the present time.

Cross-question 48. How long did your firm use the Humiston machine in the manufacture of candles?

Answer. About eight months, up to last September, when we sold out the candle branch of our business.

270 Cross-question 49. When did you first let Trowbridge & Co. have this machine to manufacture candles?

Answer. In January, 1863, and they had it for about three or four months; during that time, and afterwards, the candles manufactured by the Stainthorp machines were marked "Hudson river mould candles," and those made by the Humiston machine were marked "Trowbridge & Co."

The foregoing answer is objected to by plaintiff's counsel after the figures "1863," as not being responsive to the question.

Cross-question 50. What portion of the time between September, 1862, and January, 1863, did you use the Humiston candle machine?

Answer. We used it about all the while.

Cross-question 51. How much, if any, has your firm used it since January, 1863?

Answer. From about the first of April or May, 1863, when we got it back from Trowbridge, we used it right along until September, 1863, when we sold it.

Cross-question 52. Did your firm manufacture candles after January, 1863, up to September, 1863, when you gave up that branch of business?

Answer. We did, but for three or four months, immediately after January, 1863; we did not manufacture much after about April or

May, 1863; until we gave up the business in September, we manufactured right along.

Cross-question 53. During what portion of time did your firm sell candles marked "Hudson river mould candles?"

Answer. From the time we got the Humiston machine up to the time we disposed of the machine in September, 1863.

Cross-question 54. From what time to what time did your firm sell candles marked "Trowbridge & Co. ?"

Answer. From January, 1863, to the present time.

Cross-question 55. Why did you have the candles marked "Trowbridge & Co.," as you have stated?

Answer. Because we had been selling candles made with the Stainthorp machines marked "Gale and Hover," and they were about played out, the trade found so much fault with them, that we got them under another name; after we got enough from the Humiston machines that was not cracked to make them an object, then we put them under the name of "Trowbridge & Co.;" before that, in packing Stainthorp candles, we covered them over on the top with one layer of candles made with the Humiston machine.

271 Cross-question 56. What caused the candles to crack as you have stated in your last answer?

Answer. Because I don't think the machine was properly made.

Cross-question 57. State what defects you think there were in making the so-called Stainthorp machine?

Answer. I think the joint in the Humiston drive-rod was entirely needed in the Stainthorp machine, (it is shown in Exhibit, marked AA,) to make the candles perfect; the clamps are not right, the raising of the platform was only at one end, while in the Humiston machine it is raised at both ends, these are the principal defects; the Humiston machine has a break on it so as to check one end of the platform, and hold it to prevent its going down while you go on the other end to raise it, if necessary.

Cross-question 58. Did you find any difficulty in rasing the platform in the Stainthorp machine?

Answer. Sometimes we could not raise them at all in the Stainthorp machine, but we never got stuck with Humiston's platform.

Cross-question 59. How should the platform be raised so as to throw out the candles in a proper manner?

Answer. It should be more like the Humiston machine.

Cross-question 60. How do you mean that the platform is raised in the Humiston machine?

Answer. I mean that it is raised with a perfect platform and a perfect drive-rod, and the double leaver, or a lever at each end, and with the joint I have spoken of to go with the candle to save it from breaking, and with a proper clamp to hold them.

Cross-question 61. What kind of a platform do you call a perfect platform?

Answer. I call a perfect platform one that is fixed up properly to do its work properly for what it is intended.

1819

Cross-question 62. Describe the movable platform in the so-called Stainthorp machine.

Answer. Let us go where the machines are and I will show you.

Cross-question 63. Are you not able to describe the movable platform in these so-called Stainthorp machines without going where the machines are?

Answer. Yes; but I don't think you are capable of understanding it, you not being a practical workman yourself at them.

Cross-question 64. Please give your description of the movable platform in the Stainthorp machines?

272 The defendant's counsel objects to the last question, because the matter inquired about is no part of the plaintiffs' patent in suit, or any part of the alleged invention covered by the first claim of plaintiffs' patent.

Answer. It is placed under the moulds with a piston fastened to it with two shoulders, the upper shoulder of which breaks off very easily and making that mould useless; this platform was raised and lowered sidewise and endways; it never worked square; and then, when the tip of the piston gets to the clamps with the candle, it will not let go of the candle without breaking the tip of the candle.

Cross-question 65. Did you find much difficulty in the use of these so-called Stainthorp machines, because the movable platform holding the pistons was not moved up square, but one end of which was moved up faster than the other end; and did not this fact cause the shoulders of the pistons on the upper side of the platform to break and allow the pistons to slide loosely and become useless in the making of candles?

Answer. In that and in the clamps we found the difficulty, and also in the drive-rod; I don't know what caused the shoulders to break, but I know they did break.

Cross-question 66. What caused one end of the movable platform in these so-called Stainthorp machines to be raised faster than the other end thereof?

Answer. I suppose there was not a proper bearing or force at the opposite end from where the operator stands.

Cross-question 67. Did you find in the operation of these machines that the end of the movable platform on the opposite side of the machine from where the operator stands would not move up as fast as the end of the platform next to the operator?

Answer. Yes, it would not move up as fast.

Cross-question 68. Did this cause the platform to become wedged so that it could not be readily moved up and down.

Answer. It did not become wedged at all.

Cross-question 69. Would not this cause some of the tip moulds at the upper ends of the pistons to be less raised in the candle moulds than others would be?

Answer. Certainly it would; some would be raised higher than others.

Cross-question 70. What was the effect on the candle where some

of the tip moulds were raised higher than others, as you have stated?

273 Answer. The effect would be to break the tip of the candle by crowding it against the side of the mould, the tip mould being permanent to the piston caused the tip of the candle to break, but if it were flexible, like the device in the Humiston machine, it would prevent it.

Complainants' counsel objects to all that part of the last answer which is not confined to the effect produced upon the candle, this being the only point of inquiry in the question.

Cross-question 71. How many candle moulds and pistons were there in each of these so-called Stainthorp machines?

Answer. There were ninety-six, I believe.

Cross-question 72. About how many of the candles would be injured in any one machine in the operation of making and forcing out one set of candles from the moulds?

Answer. Work them as the machine would work, and you would break about all of them.

Cross-question 73. Do you mean to state that about all of your candles were broke from May, 1861, until you got the Humiston machine in September, 1862?

Answer. I mean to say that about all the candles were cracked or broke, or imperfect in some way or other, in the tips and in the candles, and if you want more witnesses about it, I will bring you more to testify to the same thing, and one of them will be a man that has worked in the candle business for more than thirty years.

Cross-question 74. For what prices did you sell candles for, made by the Stainthorp machines prior to September, 1862?

Answer. The prices varied. I could not fix any definite price without recourse to my books.

Defendant's counsel objects to the last question and answer as immaterial.

Cross-question 75. Did you sell the candles marked "Hudson River Mould Candles" and "Trowbridge & Co.," for the same price, when the style and size of candle and the quality of the material were the same?

Answer. We generally sold the "Hudson River Mould Candles" from a quarter to a half a cent less per pound than we sold the "Trowbridge & Co." per pound, on account of their not being perfect candles.

Cross-question 76. Give the names of the persons to whom you sold candles marked "Hudson River Mould Candles" from a quarter to a half a cent less per pound than you sold the candles marked "Trowbridge & Co.?"

274 Answer. I can't give you many names without our books. I can give the names that I gave before. I can't say they all had them, but the two firms in New York city had them.

Cross-question 77. What has become of the other four alleged Stainthorp machines owned by your firm?

Answer. We sold them.

Cross-question 78. When, and to whom?

Answer. They were sold last September to Scott & Co.

Cross-question 79. For what price were they sold?

Answer. That is no one's business but our own.

Cross-question 80. Were they sold for any price?

Answer. Yes, sir; we did not give them away exactly.

Cross-question 81. What do you mean by the expression in your last answer: "We did not give them away exactly?"

Answer. I mean to let you know that we got something for them, but there was some fault found after the sale about their breaking the tips. For that reason I did not wish to state in relation to the sale.

Cross-question 82. Where do Scott & Co. reside or do business?

Answer. At Poughkeepsie.

Cross-question 83. Did you warrant those machines?

Answer. No.

Cross-question 84. Did you inform Scott & Co. before they took the machines that they were good machines to make candles with?

The defendant's counsel objects to the last question as immaterial.

Answer. I don't mean to answer that question, I don't. I did tell them so. I think Hover sold them.

Cross-question 85. When was exhibit (J) and (JJ) sold by your firm to Humiston?

Answer. I think it was in September or October, 1863.

Cross-question 86. What did you get for it?

Answer. We got another machine, a Humiston machine.

Cross-question 87. Do you attribute the imperfect work done by the so-called Stainthorp machine to the imperfect way in which the machines were made, and especially to the irregularity in the operation of the platforms?

Answer. Yes, I attribute it to that, because the machines were not got up properly or rightly made.

Cross-question 88. Have you ever seen or examined the Stainthorp patent on which this suit is brought?

275 Answer. I have not; I have seen no more than the machine. I don't know on what patent this suit is brought.

Cross-question 89. Do you know who sent to your firm exhibit (FFF,) being the circular referred to in your direct examination?

Answer. I don't know, but I suppose.

The witness, being re-examined by the defendant's counsel, testified as follows:

Question 90. Where was the circular referred to in your last answer mailed, or post-marked, if you recollect?

Objected to by complainants' counsel as immaterial.

Answer. At New York, about the month of July, 1861.

Question 91. Why did you sell these Stainthorp machines to Scott & Co., as you have testified on your cross-examination?

Answer. Because they wanted them and we did not; we had quite a number of chances to sell the Humiston machine before that, but could not sell the Stainthorp machines before we went out of the candle-making business at the time we sold the machines to Scott & Co.

Question 92. Why did you go out of the business at that time?

Objected to as irrelevant and immaterial by complainants' counsel.

Answer. For two reasons: the one was that we could not make merchantable candles so as to give satisfaction with them in the Stainthorp machine; and the other was that we got a good price for them and wanted the room, and we considered that if we wanted machines again we could better ourselves by getting the Humiston machine in place of the Stainthorp machine, and as we contemplated building in the spring, we think of doing so.

Question 93. Does the breaking of candle tips or the breaking of candles, or the marring of candles injure their market value and sale?

Answer. Yes, sir; greatly.

On being again cross-examined the witness testified:

Cross-question 94. What has become of the machine that your firm procured of Humiston?

Answer. We sold it, with the others, to Scott & Co., but not for the same price; we got the most for the Humiston machine.

H. C. GALE.

Subscribed and sworn to before me, this 30th day of December, 1863.

JOHN T. LAMPORT,
U. S. Examiner.

276 Adjourned, by consent of counsel, to January 1st, 1864, at 9 o'clock a. m.

FRIDAY, *January 1st*, 1864—9 o'clock a. m.

The parties, by their aforesaid counsel, appeared pursuant to adjournment. The defendant's counsel offers in evidence a candle machine, consisting of vertical stationary candle moulds, loose candle-tip moulds in combination therewith, drive-rods connecting and disconnecting during the operation of the machine with the lower end of the said candle-tip moulds, and consisting also of a vertically moving platform to which the loose end of the drive-rods are attached, which platform moves up and down by means of a rack and pinion, and which also contains clamps above the candle moulds for clamping the candles, and two of which vertical moulds are wicked from spools underneath the platform and running through the side of the tip mould into the vertical candle mould, and which is here marked by the examiner defendant's exhibit (GGG.)

The complainants' counsel objects to the production of this machine in evidence, and to its use as evidence in this suit; and, also, to the foregoing statement being used in evidence therein.

The defendant's counsel next offers in evidence a candle-tip mould with an aperture extending from the lower end of such mould downward and out at the side for the purpose of receiving wick for the candle, the extreme lower end of such device so as to connect and disconnect with the drive-rod below, and also consisting of a drive-rod, of about twelve inches in length, with a spring at the upper end to connect and disconnect with the device above referred to, and which is here marked by the examiner defendant's exhibit (HHH.)

To the reception in evidence of which the complainants' counsel here objects, and also to the foregoing statement concerning the same.

Cyrus A. Sherwood was then introduced as a witness by and on behalf of the defendant, and being by me duly sworn testified as follows:

Question 1. Have you been examined as an expert witness in this case, and if so about when?

Answer. I have three times during the year 1863.

Question 2. Have you read a certified copy from the records of the Patent Office of the United States of the English patent
277 granted to Joseph Morgan in the year 1834, number 6610, for apparatus for making mould candles, and marked defendant's exhibit (B,) and if so do you understand the same, including drawings and specifications?

Answer. I have examined the certified copy from the United States Patent Office describing the claim and showing the drawings of the Morgan patent candle mould machine, issued in 1834, and marked defendant's exhibit (B,) and, I think, understand the same.

Question 3. Have you examined defendant's exhibit (GGG,) and if so, do you understand the same in construction and operation.

Answer. I have examined defendant's exhibit (GGG,) and I understand its construction and operation.

Question 4. Did you aid in the construction of that exhibit?

Answer. I did.

Question 5. Examine defendant's exhibit (HHH,) and state whether you understand the same in construction, purpose, and operation, and whether you aided in the construction of that exhibit.

Answer. I have examined the exhibit (HHH;) I understand its construction, purpose, and operation; I aided in the construction of that exhibit.

Question 6. Does defendant's exhibit (GGG) contain devices like defendant's exhibit (HHH;) and if so, how are they arranged relative to vertical stationary candle moulds and movable platform in that exhibit, (GGG,) if you find such stationary candle moulds and movable platform therein?

Answer. It does contain devices the same as defendant's exhibit (HHH.) I do find vertical stationary candle moulds and movable platform in exhibit (GGG.) In the lower end of the vertical stationary candle moulds is a tip mould like the tip mould in exhibit (HHH,) on the lower end of which tip moulds is a catch pin, consisting of a brass piece, cast in the mould, on to which the upper end of the rammer is made fast by means of a spring catch, the lower end of which rammer is fastened to the movable platform.

Question 7. State whether or not you find in exhibit (GGG) a combination of candle-tip moulds with stationary candle moulds?

The complainants' counsel objects to the last question as immaterial, irrelevant, and incompetent.

Answer. I do find in exhibit (GGG) candle-tip moulds in combination with stationary candle moulds.

278 Question 8. Please state whether or not, during the operation of exhibit (GGG,) when the movable platform is lowered,

the rammers disconnect from the candle-tip moulds, which you have described? And if so, describe the manner in which it is done.

Answer. In defendant's exhibit (GGG,) when the platform is lowered, the rammers disconnect from the tip moulds; the manner in which it is done is by the means of catch and spring catch, described in my former answer, at the lower end of the tip moulds and upper end of the drive-rods, being pulled apart by the rack and pinion which moves the rammers and platform up and down, the stationary candle moulds having in their lower end a stop to prevent the tip-mould from leaving the candle moulds, thereby causing a separation between the tip mould and drive-rod.

Question 9. Please state whether or not, during the operation of defendant's exhibit (GGG,) the rammers connect with the tip mould in forcing candles therefrom; and if so, how and by what means?

Answer. The rammers do connect, as shown in exhibit (GGG,) by means of the catch and spring catch, as previously stated, when the movable platform is raised by means of the rack and pinion for the purpose of forcing candles from the moulds, bringing the upper end of the drive-rod in connexion with the lower end of the tip mould, thus producing the desired result of forcing the candles from the moulds.

Question 10. Please state whether or not the candle-tip moulds remain connected with the rammers for any other time and operation of the machine (defendant's exhibit (GGG) than during the time of forcing the candle from the moulds, and the return of the candle-tip moulds to the small end of the stationary candle mould?

Answer. The candle-tip moulds, as shown in exhibit (GGG,) are not in connexion with the rammers for any longer period than while forcing the candles from the stationary candle moulds and returning the tip moulds to the small end or lower end of the stationary candle moulds.

Question 11. How are the stationary candle moulds in defendant's exhibit (GGG) supplied with the candle wick, if at all?

Answer. Defendant's exhibit (GGG) is supplied with candle wick taken from spools below the platform which run loose on wires, allowing the wick to pay off readily, and is drawn upwards out-
279 side of the rammers, to near the lower end of the tip moulds, then passed through an opening cast in the tip mould for that purpose, and upwards through the candle mould.

Question 12. State whether or not you find in the Morgan patent of 1834, No. 6610, defendant's exhibit (B) stationary candle moulds, candle-tip moulds and rammers constructed and combined like and in the manner shown by defendant's exhibit (GGG,) as you have testified in relation to that exhibit, and also whether in that patent the tip and rammers connect and disconnect for the purpose of ejecting the candles from the stationary candle moulds, and for returning the tip moulds to the small end of such candle moulds?

The complainants' counsel objects to the last question, as the patent itself, or a duly authenticated copy of it, is the best evidence of its contents, and of the construction and operation of the machine de-

scribed in it, and also because it is immaterial whether or not the witness finds the devices referred to constructed and combined, as in exhibit (GGG,) or what is the construction and operation of that exhibit or any part of it?

Answer. I do find in the patent referred to stationary candle moulds, and candle-tip moulds and rammers, and they are constructed and combined like and in the manner shown by defendant's exhibit (GGG,) and the rammers and candle-tip moulds do connect and disconnect in this Morgan patent, defendant's exhibit (B,) for the purpose of ejecting the candles from the stationary candle moulds therein, and for returning the tip moulds back to the small end of the stationary candle moulds.

Question 13. With the exception of the clamps which appear on defendant's exhibit (GGG,) and with the exception of the rack and pinion thereon, you mean to be understood that such exhibit is substantially such candle machine as is described in the Morgan patent of 1834, No. 6610, defendant's exhibit (B,) so far as relates to stationary candle moulds, candle-tip moulds, rammers, and the wicking of the candle moulds for candles, do you not?

The last question is objected to by complainants' counsel for the reasons last stated.

Answer. As I understand the Morgan patent referred to, and represented as exhibit (B) it is my opinion, after removing the clamps, the racks and pinions from defendant's exhibit (GGG,) that it then represents the Morgan machine, as described in that patent,
280 so far as relates to the stationary candle moulds, candle-tip moulds and rammers, and the wicking of the candle moulds.

Question 14. Are the purposes and the effect produced, or the result attained the same in the Morgan patent referred to as in defendant's exhibit (GGG,) in respect to the devices referred to in the last question?

Objected to by complainants' counsel as incompetent, immaterial and irrelevant, and for the reasons above stated.

Answer in my judgment the results are the same or would be the same in both machines, and the purposes are the same in both.

Question 15. In the construction of candle machines like defendant's exhibit (K,) how many rows of stationary candle moulds could be constructed in one machine, in your judgment.

The last question objected to by complainants' counsel as absurd, because if a candle machine were constructed like exhibit (K.) it must contain the same number of rows of stationary candle moulds as are contained in that exhibit—that is, two.

Answer. Two rows only, one upon each side of the machine.

Question 16. Would it be possible to construct any more rows of vertical candle moulds than the two rows which you have described in one machine of the size of the defendant's exhibits (H) and (J,) and at the same time use upon each row of candle moulds, racks, and tip bars, and wick clasps, like those upon defendant's exhibit (K,) in construction and operation?

The last question objected to by complainants' counsel, as irrelevant, incompetent, and immaterial.

Answer. In my judgment, it would not be possible to use more than two rows of moulds in a machine of the size of defendant's exhibits (H) and (J,) by using that particular form of rack, tip bar, and wick holder.

Question 17. Is it possible, in building a candle machine, according to plaintiff's patent in suit, to have more than two rows of candle moulds, with rack, tip bar, and wick clasp, as you have described, in one machine of the ordinary size?

The last question objected to by complainants' counsel, as it does not appear that this witness has ever built or tried to build a machine like what is described or shown in the Stainthorp patent, or that he has ever built or tried to build any other candle machine, and as incompetent, irrelevant, and immaterial.

281 Answer. As I understand the Stainthorp patent, which I have carefully examined and understand, I do not think it possible to have more than two rows of candle moulds with the tip bar and rack, and clasp described in that patent.

Question 18. You could build a candle machine like defendant's exhibit (K,) or like defendant's exhibit (GGG,) could you not, by manual labor?

Answer. I could.

Question 19. How many rows of vertical stationary candle moulds could be used conveniently and with success in a candle machine of the size of defendant's exhibit (J) and (H,) where clamps are used like those built and used on the Humiston candle machine?

The last question objected to by complainants' counsel, as it does not appear that this witness is a practical candle manufacturer, or that he has used candle machines of any size in the manufacture of candles, and because irrelevant, incompetent, and immaterial.

Answer. There can be six rows used conveniently, and there are six rows shown in defendant's exhibit (H).

The defendant's counsel here offers in evidence the following extract from volume 8, new series, of the Journal of the Franklin Institute of Philadelphia, published in Philadelphia in 1831, at pages 176 and 177, viz:

"9. For making mould candles by means of a machine for supplying and cutting the wicks, and drawing the candles from the moulds, which he calls 'the Candle Drawer and Endless Wick Nipper.' Thomas as Hewitt, jr., city of Philadelphia, Pennsylvania, May 4. The moulds are to be fixed in a mould bench in the usual way, with their smaller ends downward. The mould bench is placed between two uprights, forming a part of the machine. The moulds must be securely fixed, as the candles are to be drawn without removing them. Below the moulds there are spools or balls of yarn, formed of wick of the size desired; one of them is to be drawn through each mould, and passed out above it; the wicks are all confined to strips, called nippers, which extend from post to post, the whole length of the mould bench. These nippers hold the wicks exactly over the centre of the

moulds, and stand at a sufficient height above the tops of the moulds to allow of the pouring of the tallow. The ends of the nippers rest upon racks which rise vertically within the posts, and after the tallow has been poured and has set, a crank is turned, which, operating upon pinions, raises the racks and draws the candles from the
282 moulds. As this is done the wick is at the same time drawn into each mould, ready for a new set of candles. A sufficient length of wick is allowed above the moulds to attach other nippers, after which the wicks are cut off above these last nippers, the candles first drawn removed out of the way, the racks lowered, and the whole operation repeated.

"Some modifications of this apparatus are described, and a claim is made to the machinery in general."

The defendant's counsel also offers the following extract from the same volume, at pages 334 and 335, viz :

"26. For an improvement in candle moulds called the Sliding Mandrel Candle Mould, Thomas Hewitt, city of Philadelphia, June 13th. We formerly described a candle moulding machine, invented by the present patentee, and the machine now patented does not essentially differ from that alluded to, excepting in one particular, which is specifically claimed. The lower ends of the moulds are to be left open the full size of the tube ; into each of these openings a cylindrical mandrel or plug is fitted which will slide easily within the mould, and is perforated so as to allow the wick to pass through it. These mandrels or plugs are fitted to a rail below the moulds, one of them passing into each rail, and forming its end. When the tallow has been poured, and has set, the rail is raised or the moulds lowered by means of a rack, which causes the mandrels to force the candles sufficiently from the moulds to allow them to be readily drawn."

The complainants' counsel here objects to the introduction, in evidence, of each of the above mentioned extracts, as no notice in the answer or otherwise is given thereof, and no reference has heretofore been made thereto in this case.

The defendant's counsel here states that such extracts are offered to show the state of the art prior to complainants' patent.

Question 20. Have you just heard the examiner read the extracts just put in evidence, and do you understand the same ?

Answer. Yes.

Question 21. State how any person, ordinarily skilled in the art of manufacturing candles, in constructing a machine by the direction of such extracts, would have, prior to the year 1853, formed the upper end of the mandrels or plugs, mentioned in the last extract ?

Answer. In my opinion he would have formed them like the tip of a candle, or rather, I mean tip moulds.

283 Question 22. In a machine constructed according to such extracts, or in any stationary machine provided with movable nippers above, or any movable contrivance above for steadying the candles in their upward motion out of the moulds would the length or play of such plugs be material so that the same should be sufficient

to start the candles upward, and by movable nippers, I mean nippers moving upward and downward?

Answer. In my judgment it would make no difference in drawing the candles by the nippers if they were only just started from the moulds.

Question 23. And in such case would the candles be as readily and conveniently drawn out the rest of the way by the nippers as pushed out by the plugs if sufficiently long for that purpose?

Answer. In my opinion they could just as readily and conveniently be drawn out by the nippers as they could be pushed out by the plugs.

Question 24. What, if any, would be the difference between plugs thus formed into tip moulds at their upper ends and extending downwards an uncertain distance to a common rail for moving them, and pistons of the same length, formed at their upper ends into tip moulds?

Answer. I should not consider that there would be any difference.

Question 25. If by any change in such machines as were referred to in question 22, it had been desirable prior to 1853 to increase the length and play of such plugs or pistons so as to push the candles entirely out of the moulds, in your judgment would any ordinary mechanic have been competent to have effected that object?

Answer. I think that an ordinary mechanic would.

Question 26. In your judgment, what, if any, utility would there be in increasing the length and play of such plugs or pistons so as to push the candles vertically out of the moulds except in connexion with appropriate means for guiding them in their upward motion and seizing and holding them after being so pushed out?

Answer. There would be no utility whatever.

The witness, being cross-examined by the complainants' counsel, testified as follows:

Cross-question 27. Do you mean the court to understand that the machine marked defendant's exhibit (GGG) is constructed according to the description and drawings contained in the patent granted to Joseph Morgan, in 1834, and marked defendant's exhibit (B)?

284 Answer. Not in all its parts.

Cross-question 28. Do you mean the court to understand that exhibit (B,) referred to in the last question, describes the machine organized and arranged in its several parts, with reference to each other, like the stationary candle moulds, tip moulds, drive-rods and movable platform in defendant's exhibit (GGG)?

Answer. In those four particulars I had reference in my previous answer; I mean the stationary candle moulds, tip moulds, drive-rods, and movable platform and spring-catch attachment. That is what I mean by exhibit (GGG) being like the description in the Morgan patent of 1834.

Cross-question 29. How far below the lower ends of the tip moulds in exhibit (GGG) are the upper ends of the rammers or drive-rods in that exhibit; I mean when the tip moulds are at the bottom of the stationary moulds and the rammers connected at their lower ends

with the movable platform are let down to the full extent permitted in that exhibit?

Answer. They are about seven-eighths of an inch.

Cross-question 30. How many rows of stationary candle moulds are there in exhibit (GGG,) and how many candle moulds are there in each row?

Answer. There are four rows, and twenty-four candle moulds in each row.

Cross-question 31. Are each of these candle moulds made stationary in the machine, and are they a part of its permanent organization?

That part of the question is objected to by defendant's counsel relating to the terms "permanent organization," 1st, because plaintiffs' patent in suit is not for an organized machine; and, 2d, because plaintiffs' patent in suit relates to and covers only the *special* combination of devices named in the first and second claims of that patent; and, 3d, because the pretended claim of the plaintiffs against the defendants is founded on the first claim of that patent.

Answer. Each of the moulds are made stationary in the machine, and they are a part of its permanent organization.

Cross-question 32. Are each of the rammers or drive-rods in exhibit (GGG) also permanently attached, at their lower ends, to the movable platform and forming a permanent part of the machine, as organized and arranged?

The question objected to, all that part of it relating to an organized machine, whether permanent or otherwise, for all of the reasons last above given, and in addition thereto, that the arrangement of piston-rods or rammers at their lower end with the movable platform is no part of the plaintiffs' patent in suit?

285

Answer. They are permanently fastened at their lower ends to the platform, and they are a part of the organized machine.

Cross-question 33. Is the upper end of each of these rammers or drive-rods placed about seven-eighths of an inch below the lower end of the tip mould with which it is to be connected in this exhibit (GGG)?

Answer. It is designed that each of these rammers or drive-rods should be seven-eighths of an inch at their upper end from the lower end of the tip mould when the platform and tip moulds are drawn fully down, and they are entirely disconnected at that point.

Cross-question 34. Have you read and are you acquainted with the contents of the English patent granted to Joseph Morgan in 1834?

Answer. I have read a certified copy, and I think I understand it.

Cross-question 35. Please look at defendant's exhibit (B,) which purports to be a description of the Morgan candle machine of 1834, and state whether that is what have read, and which, in your last answer, you call a copy of that patent?

Answer. Defendant's exhibit (B) is the copy which I have read, and I have read no other description of the Morgan and Gaskell patent of 1852.

Cross-question 36. Look at exhibit (B) and quote therefrom, and point out from the drawings thereof the part or parts which state or

show that stationary candle moulds are to be used in that machine, or which describe or show stationary candle moulds?

Answer. Fig. 3, of the drawings on this exhibit, represents stationary candle moulds, and they are also represented in fig. 2 and fig. 4, of those drawings; that is all that I see on the drawings that represent stationary candle moulds; I do not find, in so many words, stationary candle moulds here stated in this exhibit, but I do find series of candle moulds mentioned in this exhibit as forming stands; I mean by a series of candle moulds that they are arranged in a frame at proper distances from each other, and are made stationary in relation to each other, being placed in a row.

Cross-question 39. What do you mean by being placed in a
286 row?

Answer. I mean that the separate moulds are placed in a row lengthwise of the stand, there being one, two, or more rows.

Cross-question 37. Point out, from exhibit (B,) that part which shows or describes more than one row of candle moulds in one stand?

Defendant's counsel objects to the last question as immaterial, because there is but one row on each side shown in plaintiff's patented model now in the United States Patent Office, (of which defendant's exhibit (K) is a certified duplicate,) and on which the patent in suit was granted March 6, 1855.

Answer. There is no repeesentation on this drawing of more than one row in each stand; there are eighteen candle moulds in a row on this drawing, and they are at equal distances apart lengthwise of the stand; nor is there more than one row of candle moulds in each stand mentioned in the patent. The different stands of candle moulds represented in the drawings contain different numbers of candle moulds.

Cross-question 39. Is it not stated in exhibit (B) that the candle moulds are supported, in a perpendicular position, on the railway, and that in this position they are run forward on this railway under a reservoir, where they are filled with tallow or other suitable material, and that they are then run further along on a railway to a suitable position for the candles in the moulds to harden; and that after becoming sufficiently hardened, the moulds containing the candles are then placed on another railway, whence they are taken to the ramming mechanism for the candles to be forced out of the moulds?

Answer. I find that it is substantially so stated in the exhibit.

Cross-question 40. How does that exhibit show that the stands of moulds are placed when the candles are to be forced out of the moulds by the ramming mechanism?

Defendant's counsel objects to the last question, as the position of the stands, as inquired about, is wholly immaterial so long as the combination of candle moulds and candle-tip moulds, and drive-rods or rammers is complete, for the *express purpose* of forcing the candles entirely from the moulds in which they are cast or formed; and if this combination of devices answers to the combination of similar devices for the same purpose in the Humiston candle machine, *the direction* in which the candles are forced from the moulds is also wholly immaterial.

287 Answer. In a horizontal position, and the candles are forced out of the moulds in that position on to a grooved table.

Cross-question 41. In what sense do you mean that the candle moulds in the Morgan machine are stationary?

Answer. In relation to each other, I mean the separate candle moulds are stationary with reference to each other in the same stand.

Cross-question 42. Did you find in defendant's exhibit (B) candle moulds made stationary the same as in defendant's exhibit (GGG)?

Answer. It don't describe in defendant's exhibit (B) the mode of fastening the candle moulds; I find the candle moulds in defendant's exhibit (GGG) made stationary, as I understand them to be represented in defendant's exhibit (B;) I had reference to the mode of fastening the candle moulds in the stands, in the first part of my answer in exhibit (B.)

Cross-question 43. The stands containing the candle moulds are to be moved from place to place, as described in the operation of the Morgan machine, are they not?

Objected to by defendants counsel as wholly immaterial, as the Humiston machine may be moved from place to place.

Answer. They are.

Cross-question 44. After the candle moulds in the Morgan machine, as the operation is described in the Morgan patent of 1834, are filled under the reservoir, they are removed to another place, are they not first, for the candles to harden, and then to another place and placed horizontally before the rammers for the candles to be forced out?

The same objection is made by defendant's counsel to the last question as to the last above.

Answer. They are.

Cross-question 45. State whether, in the construction and operation of defendant's exhibit (GGG,) the candle moulds are to be removed from place to place for the purposes mentioned in the last question, or for any other puposes.

The last question is objected to by defendant's counsel, for all the reasons above given.

Answer. They are not so designed, and could not be from their construction; you might remove the whole machine, if you chose.

Cross-question 46. State whether or not, in the construction and operation of the candle machine described in Morgan's patent
288 of 1834, different sets or stands of candle moulds are to be used.

Defendant's counsel makes same objection to the last question asthe last above.

Answer. There are different sets or stands of moulds to be used.

Cross-question 47. Do the rammers or drive-rods in exhibit (GGG) contrive to occupy a position of about seven-eighths of an inch below the tip moulds at all times when the movable platform is drawn down?

Answer. They do at their upper ends.

Cross-question 48. Then, in your direct examination, do you mean the court to understand that the candle moulds, rammers, and tip moulds, in the machine described in Morgan's patent of 1834, occupy the same relative position to each other as the stationary candle

moulds, drive-rods, and tip moulds occupy to each other in defendant's exhibit (GGG)?

Answer. While in the act of operating, in forcing the candles from the moulds, they then sustain the same relative position to each other, except the rammers and candle moulds are in a horizontal position in the Morgan machine while the candles are being forced out.

Cross-question 49. Is what you have stated in your last answer what you mean the court to understand by exhibit (GGG) being the same in construction and operation as the Morgan machine, described in his patent of 1834?

Answer. That is what I mean, with the addition of the wicking device.

Cross-question 50. In your direct examination you have been questioned relative to a machine called the Hewitt machine; state, briefly, what you understand to have been its operation.

Answer. My understanding of the machine is derived exclusively from the extracts read in evidence from the Franklin Journal, and that the machine, as first patented, had candle moulds in a stationary frame, in which the candles were cast, and above them nippers operating vertically, with rack and pinions, whereby the candles were drawn upward out of the moulds and the wick, at the same time, drawn through the mould from below and centred, and whereby such candles were also suspended while the next set were moulding, and that the candles were started and drawn out of the moulds entirely by these nippers, unless, perhaps, the previously known method of popping the candles by pressing thereon downward may
289 have been used. In the machine, as improved by the second patent, the candles were started from the bottom by the plugs mentioned, which were, doubtless, formed, as I have stated, into the tip moulds at their upper ends, and that after being thus started were drawn out the rest of the way by the nippers, as before described, centring the wick in like manner.

Cross-question 51. Do you find any statement in the extracts referred to in your last answer that the plugs therein referred to were formed, at their upper ends, into tip moulds?

Answer. I do not.

It is here admitted, by the counsel for the respective parties, that any Patent Office records of letters patent to Thomas Hewitt, as stated in the extracts referred to by the witness, if any such ever existed, were destroyed by fire in 1836, in the Patent Office at Washington, and that no evidence of such patents has since been restored to the records of the Patent Office.

The witness, being further examined by defendant's counsel, testified as follows:

Question 52. In the Morgan machine, as described in his patent of 1834 when the stands of candle-moulds are taken to the ramming mechanism, state whether the combination of the candle-moulds, candle-tip moulds, and drive-rods, or rammers, is complete for the purpose of pushing the candles entirely out of the moulds.

Answer. It is.

Question 53. State what combination, if any, of the Morgan and Humiston machines is found in defendant's exhibit (GGG)?

Answer. That exhibit represents an application of the rammers and tip moulds of the Morgan machine to the other parts of the Humiston machine.

Question 54. Do you understand that in the Morgan machine the candles are entirely pushed out of the moulds?

Answer. I do, and that it is necessary so to do in operating the machine, but I do not know that the patent specifically states that that is done.

C. A. SHERWOOD.

Subscribed and sworn to before me, this 1st day of January, 1864.

JOHN T. LAMPORT,
United States Examiner.

290 Alphonse Picard, a witness produced by and on behalf of defendant, and being by me duly sworn, testified as follows:

Question 1. What is your name, age, occupation, and residence, and how long have you resided there?

Answer. My name is Alphonse Picard; my age is 25; I reside in Troy, and have resided here since 1856, and I am, by occupation, a mechanical draughtsman, and have been in that business nine years last past.

Question 2. In what branches of the business of draughtsman are you acquainted, as a practical draughtsman, if any?

Answer. I am acquainted with the business of practical draughtsman, such as designing on wood, sketching and drawings of machinery, buildings, stoves, circulars, bill-heads, society seals, &c.

Question 3. Have you ever done any drawings on wood for the defendant Humiston?

Answer. I have.

The defendants' counsel here offers in evidence a circular dated Troy, New York, March 13th, 1863, signed Willis Humiston, headed with a representation of two candle machines, and which is here marked defendant's exhibit (JJJ.)

The complainant's counsel objects to the introduction, in evidence, of the circular above referred to.

Question 4. Look at defendant's exhibit, (JJJ,) now shown you, especially that part marked Fig. 2, and state by whom the wood-cut for that engraving was made.

Answer. It was made by me; that is, I draughted the machine on wood, and my assistant engraved it.

Question 5. From what was that engraving made?

Answer from the patent drawings and the model.

Question 6. Is defendant's exhibit, (K,) now shown you, and the drawings attached to defendant's exhibit, (E,) now shown you, the mould and drawings referred to in your last answer?

Answer. They are.

Question 7. Is the cut referred to on exhibit (JJJ) a correct rep-

resentation, by engraving, of the model referred to in your last answer?

The last question objected to by complainant's counsel as irrelevant, incompetent, and immaterial.

Answer. It is.

Question 8. Look at the engraving on wood-cut on defendant's exhibit (FFF) and state whether or not that cut or engraving
291 correctly represents the model referred to in your previous answers?

Plaintiffs' counsel makes same objection as last above.

Answer. It does not.

Question 9. What does Fig. 1 of defendant's exhibit (LLL) represent?

Same objection as last above.

Answer. It represents a correct copy or engraving of the Humiston candle machine, engraved from the machine, or, rather, sketched from the machine.

The witness, being cross-examined by the complainants' counsel, testified as follows:

Cross-question 10. Who procured you to do the work mentioned in your direct examination, and about what time did you do it?

Answer. Mr. Humiston, the defendant, procured me to do the work entirely—that is, the engraving and draughting and the sketching of his machine, and of both machines on exhibit (LLL.) The work on the Stainthorp machine was done some time in the early part of the year 1863; the work on the other was done more than two years before that time, I should think.

Cross-question 11. Have you ever read the patent, or an authenticated copy of it, granted to John Stainthorp, dated March 6th, 1855?

Answer. I never have.

Cross-question 12. Do you know whether the engraving shown on the circular, marked defendant's exhibit (FFF,) corresponds with or differs from the candle machinery described and patented in that patent?

Answer. It does not correspond, but it differs considerably.

Cross-question 13. If you have never read the Stainthorp patent referred to, how are you able to say that the engraving shown on that circular differs considerably from what is described and patented in that patent?

Answer. By referring to the drawings attached to the patent, and comparing the engraving with them.

Cross-question 14. Then you have not referred, have you, to the written description contained in the Stainthorp patent, and compared the engraving with that?

Answer. No, sir; I have not—no more than the drawings referred to.

ALPHONSE PICARD.

Subscribed and sworn to before me, this 1st day of January, 1864.

JOHN T. LAMPORT,
U. S. Examiner.

292 Case adjourned, by consent of counsel, to January 2d, 1864, at 9 o'clock a. m.

1864, JANUARY 2d—9 o'clock a. m.

The parties, by their respective counsel aforesaid, appeared at M. P. Norton's office, pursuant to adjournment, and—

DAVID SCOTT, a witness introduced on the part of the defendant, having been duly sworn, testified as follows :

Question 1. What is your name, age, occupation, and place of residence ?

Answer. My name is David Scott ; I am forty-nine years of age, and upwards ; my business is that of soap and candle manufacturer ; I reside at the city of Poughkeepsie, N. Y.

Question 2. About how long have you been engaged in the business named in your last answer, and have you made candles by machinery ; if so, by what machinery and for what length of time ?

Answer. I have been engaged in the manufacture of candles between thirty and forty years, but not so long in the soap business, at the city of Carlysle, and other places in England, and for twenty-one years past in this country, and for the last fourteen years at Poughkeepsie. I have manufactured candles by machinery with Stainthorp and Humiston's machines for about four months last past.

Question 3. How does the Stainthorp machine, referred to in your last answer, work in the manufacture of candles, good or bad ?

Answer. Not good ; they work bad—that is, they make an imperfect candle.

Question 4. Is any part of the candles made by the Stainthorp machines marred, or broken, or otherwise injured, during the operation of the machine in the manufacture of candles ; and if so, what part ?

Answer. Yes, the tip end of them—sometimes about half of them are broken in each operation of the machine ; and I have seen them marred otherwise, but not so commonly as the tips are broken.

Question 5. Does the breaking of the candle tips, in the manner and by the means which you have above described, injure their sale or market value, more or less ?

Answer. They injure the sale and market value both.

293 Question 6. Have you any broken or injured candles now on hand at your factory, made by these Stainthorp machines that you have testified to ; and if so, about what quantity ?

Answer. I think I now have about six hundred weight at my factory ; I have about three barrels of them.

Question 7. Please state whether the candle-wick which is in those broken or injured candles you now have on hand is an entire loss to you, and also the probable amount of such loss, including the prices which you pay per pound for such wick.

Answer. There would be six dollars loss ; at least we calculate that the wick in each 100 lbs. of candles is worth one dollar and a quarter.

Question 8. Please state whether or not there is also a loss of tallow by the absorption of the same by the candle-wick which cannot be entirely separated therefrom in this remelting of these broken candles.

Answer. There is some loss of tallow ; I cannot state how much in value.

Question 9. Please state whether or not there is also a loss in labor caused by the necessity of remelting such broken candles and separating the wick therefrom.

Answer. There is a loss of labor and fuel both.

Question 10. How and by what means do you separate the tallow of these broken candles from the wick, after having melted it?

Answer. By means of a screw press.

Question 11. You will also please state whether or not you strain this remelted tallow after having pressed the candle-wick which comes from the remelted candles.

Answer. Yes, I do ; I strain all of my tallow, that which I melt and remelt also.

Question 12. Do you mean to be understood that you strain your remelted tallow, after having once strained it when it was first melted?

Answer. I do ; so that the tallow once melted and strained is restrained when melted again.

Question 13. Look at defendant's exhibit (K,) especially the rack and tip bar, and wick-clasp thereto affixed by means of hinge joints, and state whether or not the Stainthorp machines which you have in use in your factory contain a rack, tip bar, and clasp in construction and operation like that on said exhibit now shown you.

The last question objected to by complainants' counsel.

Answer. They contain no rack, tip bar, or clasp like the one shown me on that exhibit.

Question 14. Look at defendant's exhibit (JJ,) and state whether or not the Stainthorp machines which you have in use contain
294 clamps substantially like this exhibit now shown you in construction and operation.

Answer. They contain the same.

Question 15. State whether or not you have examined defendant's exhibit (J,) and if so, how does that machine or exhibit compare with the Stainthorp machine which you have in use?

Answer. I have examined defendant's exhibit (J,) and find it is the same that I have in use, except on that I have in use has a wooden box or side ; the rest have iron sides, like such exhibit.

Question 16. Are the Stainthorp machines which you have in use marked with the name of John Stainthorp, New York, and the date of his patent thereon?

Answer. I believe they are, but I cannot swear positively to that ; I have seen the name of Stainthorp thereon, but have never taken a written memorandum of the marks.

Question 17. You say you have a Humiston candle machine in use ;

how does that machine work in the manufacture of candles—good or bad?

Answer. Good.

Question 18. Does it make good, marketable candles?

Answer. It does.

Question 19. Have you ever had any candles broken or injured by the use of the Humiston machine?

Answer. Not to my knowledge.

Question 20. How does the Humiston candle machine compare with the Stainthorp machine as to the capacity of the manufacture of candles in machines containing the same number of candle moulds?

Answer. The machines contain the same number of candle moulds; you can make more candles in the Humiston machine; I can work the Humistop machine oftener, and make more candles in a day.

The witness, being cross-examined by the complainants' counsel, testified as follows:

Cross-question 21. Do you carry on business alone or in connexion with some other person or persons; and if you do, with whom?

Answer. I have a partner in business; his name is Eli Sutliffe; the name of our firm is D. Scott & Co.; the firm has been in existence six or seven years.

Cross-question 22. How many of the so-called Stainthorp candle machines have your firm, and when, where, and of whom were they procured?

295 Answer. Our firm have four in use; they belong to me; they were procured about the month of August or September last of Gale & Hover, of the city of Hudson, N. Y.

Cross-question 23. Were they purchased by you personally?

Answer. They were.

Cross-question 24. Were Gale & Hover present when you purchased the machines of them?

Answer. Yes, they were present.

Cross-question 25. How much did you pay, or agree to pay, Gale & Hover for each of these so-called Stainthorp machines?

The defendant's counsel objects to the last question as immaterial, because the price paid for the machines in question is nowise connected with the operation of the machines for the manufacture of candles, and because the iron and the block tin from which the moulds and tip moulds were made, and the other material used in the construction of these machines, may have been worth in market the price paid or agreed to be paid for these machines by the witness.

Answer. Seventy-five dollars each.

Cross-question 26. How came you to purchase these four candle machines of Gale & Hover?

The defendant's counsel objects to the last question as wholly immaterial.

Answer. Because I wanted such articles.

Cross-question 27. How came you to know that Gale & Hover had them to sell?

Same objection as the last by defendant's counsel.

Answer. I called into their factory and saw the articles, and stated to them that I should like to buy some candle machines. We got to talking about candle machines. I said I thought I would like to get some new ones, and that I would write up to Mr. Humiston for some. They said perhaps they would have these to sell, and if so, that they would let me know.

Cross-question 28. Did Gale & Hover afterwards inform you, by letter or otherwise, that they had these machines for sale?

Same objection as last above.

Answer. They did inform me by letter.

Cross-question 29. About how long after you first saw these machines and had this conversation with Gale & Hover was it when they informed you by letter that you might have them?

296 Defendant's counsel interposes same objection as the last, and further, that the fact of the sale and the transfer of these machines having been already proved by the witness, the modus operandi of the same is not only immaterial, but the counsel has no right to inquire into the same, it being a matter about which the witness was not inquired of on his direct examination, and it being also an inquiry into the private affairs and business of the witness, and is in no wise connected with the operation of the Stainthorp machine in the manufacture of candles.

Complainants' counsel disclaims any desire to inquire into the private business affairs of the witness, which have nothing to do with this case.

Defendant's counsel replies, and states that if such be the desire of the plaintiffs' counsel he would better convince the court of that fact by a withdrawal of the question than by the statement he has made.

Complainants' counsel replies, that the court will, no doubt, be fully convinced, by a simple inspection of the question, that his desire in the matter is exactly as he has stated.

Answer. It might be from one to two months; I can't exactly state the time.

Cross-question 30. Have you that letter with you?

Answer. No, sir; I think I have it at home.

The question and answer last given are objected to, for all of the reasons above given by defendant's counsel.

Cross-question 31. How much did Gale & Hover ask for each of these machines?

Answer. They asked seventy-five dollars for Stainthorp's, and one hundred dollars for the Humiston machine.

Cross-question 32. Did you see the so-called Stainthorp machines operate in the manufacture of candles when you were at Gale & Hover's establishment at Hudson?

Answer. I did not, sir.

Cross-question 33. Did Gale & Hover inform you that the so-called Stainthorp machines were worth seventy-five dollars apiece?

The defendant's counsel objects to the last question as wholly immaterial as to the question of utility on the hearing of this cause, for the reasons above given, as to the quantity and price of materials

in these machines, and their representations as to such price in no wise affects the working of said machine in the manufacture of candles.

297 Answer. Yes, and they stated that they had been offered the same by others, but gave me the first chance to buy them.

Cross-question 34. Did they state to you how long they had had them in use?

Answer. I think they did not; I cannot now tell; I believe they did not.

Cross-question 35. Did they appear to have been considerably used when you got them?

Answer. No, they did not seem to have been abused in any way.

Cross-question 36. Did Gale & Hover say anything to you about the quality and quantity of work which the machines would do?

Same objection by defendant's counsel as last above given.

Answer. My recollection is, that they said they could do a great deal more work with machines than with the hand stands like defendant's exhibit (BB.)

Cross-question 37. What machines did they say they could do a great deal more work with than in the hand stand machines like defendant's exhibit (BB)?

Answer. They did not mention any manufacturer's name.

Cross-question 38. Were you not then talking about and referring to the candle machines in Gale & Hover's place, which you were negotiating to purchase, or machines like them?

Answer. We were talking about machines like them or theirs, I forget which.

Cross-question 39. And they said such machines would do a great deal more work in a day than the old hand stand machines, did they not?

Objected to by defendant's counsel as to all that part of the question calling for what Gale & Hover said to the witness about candle machines, for all of the reasons last above given.

Answer. Yes.

Cross-question 40. When and of whom did you get your so-called Humiston machines, and how many have you?

Answer. I have one, and I got it of Gale & Hover at the same time I got the other machines.

Cross-question 41. How many candle machines have you now in use, and of whom did you procure them?

298 Answer. I have five; I procured them of Gale & Hover, as I have before stated.

Cross-question 42. About what portion of the time have you kept these machines in use since you procured them in August or September last?

Objected to by defendant's counsel as immaterial.

Answer. About two-thirds of the time we have had them, I suppose; I cannot state with certainty; we have kept them in use all the time we had work for them to do.

Cross-question 43. Who attends to, or has charge of, these machines in the manufacture of candles?

Answer. My son, William Scott; he has mostly worked them; I have worked them some myself.

Cross-question 44. Does your son, William Scott, now reside in Poughkeepsie?

Answer. Yes, sir.

Cross-question 45. About how much have you worked these machines personally?

Answer. I do not suppose I have worked them myself four days altogether; I have been sick.

Cross-question 46. Have you been most of the time, since you procured these machines, unable to attend personally to business?

Answer. I have always been able to attend to business, but not to work.

Cross-question 47. Have you derived your knowledge relative to the working of your candle machines mostly or wholly from your son?

Answer. Partly from myself and my son both; we have both tried to work them the best we could.

Cross-question 48. State whether or not these machines were damaged or injured on being brought to your place from Hudson.

Answer. There were some tripping damaged; we got them fixed as good as they were before.

Cross-question 49. How were they damaged, or by what means?

Answer. They were damaged on the railroad on being brought down to my place.

Cross-question 50. Did you carefully inspect each of these so-called Stainthorp machines while they remained at the place of Gale & Hover, in Hudson?

Answer. I did not.

Cross-question 51. State what defects you find in the so-called Stainthorp machines that you have which cause injury to the candles.

299 Answer. The defect is, that when the candle leaves the mould a great many of them break off at the tips; this is one of the principal objections to them; sometimes the candles will come up out of the moulds bruised, too; that is about all of the defects; there are some more: one end of the platform in these machines, carrying the drive-rods, does not work true; it goes up faster than the other end; the part of the platform which goes up slowest will not raise the drive-rods or pistons fast enough so as to throw the candles sufficiently far out of the stationary moulds so that they can be seized and held in the clamps above the tip bar, but are left so low that the tip bar mushes into the candle at the tip, or above the tip, while the candles raised by the pistons at the other end of the platform would be elevated up into the rack or clamps above the tip bar, and would not be injured by the clamps or tip bars; and when the candles are thrown into the clamps, as last mentioned, they are not generally injured, excepting the tips are broken below.

Cross-question 52. What would cause the breaking of the tips below?

Answer. It must be some defect in the tip moulds ; I can't tell how ; we cleaned them out and oiled them, and took all the pains we could with them, and then they didn't work any better.

Cross question 53. State whether or not you find in each of these so-called Stainthorp machines the difficulties which you have spoken of in your answer to the 51st interrogatory, in relation to the platforms not working true, one end coming up faster or further than the other end ?

Answer. I don't think they are all that way ; one in particular was a great deal more than the others in that respect.

Cross-question 54. Do you find that the one which is a great deal more than the others in that respect breaks and injures more candles than each of the other three ?

Answer. I cannot say it does ; I cannot see much difference in them as to the breaknig of the tips.

Cross-question 55. What do you do with the candles which are made in these so-called Stainthorp machines which are uninjured ?

Answer. We sell them.

Cross-question 56. Where, and to whom ?

Defendant's counsel objects to the last question as wholly immaterial.

300 Answer. At Catskill, Saugerties, Kingston, Rondout, Poughkeepsie, New York, and various other places, to wholesale and retail dealers generally.

Cross-question 57. Do you sell the candles manufactured by you in the Humiston machine mixed up, indiscriminately, with those made in the so-called Stainthorp machines ?

Answer. Yes, they are all mixed up and sold together. We keep sixes by themselves, and eights by themselves.

Cross-question 58. Do you get the same price for the candles which you sell, made in the Humiston machine, as those which you make and sell in the so-called Stainthorp machines ?

Answer. I sell them for the same price, but I have to make an allowance sometimes on account of the broken tips.

Cross-question 59. What alterations, if any, have you made, or had made, in the clamps which you have used on the so-called Stainthorp machines ?

Answer. We have lined the holes with cloth, and taken out the strip of rubber like that which is shown on defendant's exhibit (JJ.) It was my son that did it. I had the fever and ague at that time.

Cross-question 60. How long after you procured these machines from Gale & Hover before the alterations were made spoken of in your last answer ?

Answer. I might have had them a month or six weeks, or something like that.

Cross-question 61. How long did you use these machines personally, or personally superintend their operation in the manufacture of candles before these alterations were made in the clamps, some month or six weeks after you got them ?

Answer. Perhaps about a month, or something like that. My boy

worked them, and we both worked them, and did what we could with them, but could make nothing out of them.

Cross-question 62. Did you continue to use the same clamps, with the alterations you have spoken of, or did you procure new clamps?

Answer. We used the old clamps as altered.

Cross-question 63. Do you know John Stainthorp & Co., of New York?

Answer. I do not.

Cross-question 64. Have you not been sued, or threatened with a suit, for an alleged infringement of the Stainthorp candle machine patent?

301 The last question is objected to by defendant's counsel as wholly immaterial.

Answer. No, sir.

Cross-question 65. Have you taken or paid for a license under the Stainthorp patent?

Answer. Not to my knowledge; I supposed when I bought the machines I bought the right to use them.

Cross-question 66. Do you know who made the machines which you have in use?

Answer. No, I do not.

Cross-question 67. Have you ever seen or read the patent granted to John Stainthorp, dated March 6, 1855?

Answer. No, sir.

Cross-question 68. Do you know anything of the contents of that patent?

Answer. I do not.

The witness being re-examined by the defendant's counsel, testified as follows:

Cross-question 69. What did you pay for the Humiston machine which you bought of Gale & Hover?

Answer. One hundred dollars.

Question 70. Why did you pay $25.00 more for that machine than you did for the Stainthorp machines—they containing the same number of candle moulds as you have stated?

Answer. Because it was considered a better machine.

Question 71. Do you have any trouble with that machine with respect to one end of the movable platform going up faster than the other end during the ejection of candles from the candle moulds?

Answer. Not to my knowledge.

Question 72. Have you ever, by the use of that machine, injured the candles by the clamp used upon it?

Answer. I never have; it is a perfect thing.

Question 73. Do you know who wrote the letter referred to in your answer to question No. 30, or in whose handwriting it is?

Answer. I suppose they (Gale and Hover) sent it, but I don't know which of the firm wrote it, or who did write it.

Question 74. Why did you line the clamps with cloth on the Stainthorp machine, as you have testified?

Answer. We could not get them to work good in any other way.

1303

Question 75. Are you personally acquainted with the de-
302 fendant, Humiston, and if so, when did you so become acquainted?

Answer. I am not personally acquainted with him. I never saw him to know him before to-day that I recollect. I have seen a brother of his. He used to come around to sell the hand stands like defendant's exhibit (BB.) This was some dozen years ago, perhaps.

Question 76. What was the extent of the injury done to the Stainthorp machines, and what parts of these machines; were they injured during the transportation from Hudson to Poughkeepsie?

Objected to by complainants' counsel, as it does not appear that this witness knows the conditions of the machines when they left Hudson.

Answer. There were some six or eight, or perhaps there might be one or two more, of candle tips broken from the drive-rods. That was all the injury.

Question 77. Did you have these candle-tip moulds resoldered or permanently fastened to the drive-rods, so that they were then in as good condition as those which were uninjured?

Answer. I had them soldered again, and could see no difference in them and the others.

The cross-examination being resumed by the complainants' counsel, the witness testified as follows:

Cross-question 78. After you received the letter from Gale and Hover, offering to sell the machines to you as you have stated, did you accept their offer, and were the machines sent pursuant to their order in that letter?

Answer. I went up and bought the machines and paid for them.

Cross-question 79. Did they inform you that they had written you the letter on the subject, when you went up there?

Answer. I could not possibly say.

Cross-question 80. Did you receive the letter from them before or after you had been up there?

Answer. After.

Cross-question 81. Did you then write them to send you the machines?

Answer. No, sir.

Cross-question 82. How did they come to send them to you, then?

Answer. Because I bought them and paid for them, and they agreed to ship them to me.

Cross-question 83. Then you were up at Hudson twice, were you
not; and the second time you were there you bought and paid
303 for the machines, and had Gale and Hover send them to you. Am I correct?

Answer. Yes. I was there twice, but only once for the purpose of purchasing the machines. I went there the second time, when I purchased the machines, a month or two. I can't tell exactly how long after I had first seen the machines.

DAVID SCOTT.

Subscribed and sworn to before me, this 2d day of January, 1864.

JOHN T. LAMPORT,
U. S. Examiner.

William D. Gaul, a witness by and on behalf of the defendant, was produced, and being by me duly sworn, testified as follows:

Question 1. What is your name, age, occupation, and place of residence, and how long have you resided there?

Answer. My name is William D. Gaul; I am twenty-four years of age; I am a manufacturer of brick; I reside in the city of Hudson, N. Y., and I have resided there about twenty-four years.

Question 2. Have you ever been engaged in the manufacture of candles by machinery; if so, when and where?

Answer. I have; in the city of Hudson, previous to Gale & Hover's going into business. Two years ago I was in business as a member of the firm of Henry McClellan & Co., two years ago at that place.

Question 3. Did your firm sell to Gale & Hover any candle machines within the last four years?

Answer. The same candle machines used by Henry McClellan & Co. were bought and used by Gale & Hover.

Question 4. The candle machines sold by your firm to Gale & Hover were purchased where, and of whom, and by whom?

Answer. To the best of my belief they were purchased by George H. Power, of Stainthorp & Co., of New York city; they were purchased by Power in the spring or fall of 1860; Power, at that time, was a member of the firm of H. McClellan & Co.

Question 5. Were these candle machines sold by your firm to Gale & Hover known and called the Stainthorp candle machine by your firm?

Objected to by complainants' counsel as immaterial, irrelevant, and incompetent.

Answer. Yes, sir; they were.

Question 6. Have you to-day examined defendant's exhibit
304 (J) and the clamps thereon marked exhibit (JJ;) and if so, were those exhibits purchased by your firm of Stainthorp & Co., of New York, and by your firm sold to Gale & Hover?

Complainants' counsel objects to last question, as it does not appear that the witness has personal knowledge relative to the purchase from Stainthorp & Co.

Answer. I have examined the exhibits (J) and (JJ,) referred to, and I should think they were purchased of Stainthorp & Co, of New York, and they were sold by our firm to Gale & Hover.

Question 7. Were the candle machines and clamps which you purchased of Stainthorp & Co. like, in construction and operation, (so far as you are able to judge,) the defendant's exhibits (J) and (JJ,) referred to in the last question and answer?

Objected to by complainants' counsel as assuming.

Answer. They were.

Question 8. During the time that your firm owned the machines referred to please state how they worked in the manufacture of candles, good or bad?

Objected to by complainants' counsel as irrelevant and immaterial, and because the question is improperly framed.

Answer. They worked many different times bad and many different times good.

The defendant's counsel here states that the words, "and many different times good," were given in answer to a question asked the witness by complainants' counsel.

Complainants' counsel says that he merely suggested the question, as the answer already given seemed to clearly imply the meaning of the witness, as afterwards expressed, and was suggested to facilitate the examination, and to avoid questions on a cross-examination, which he supposed would be agreeable to the defendants' counsel, or he should not have suggested it.

Question 9. Was there any difficulty in the use of these machines as to the breaking of the tips of the candles during the operation of the machines?

Answer. There was.

Question 10. Did your firm, or any member or members thereof, obtain license from Stainthorp & Co., of New York, to use the machines referred to?

Answer. Yes, sir.

The witness being cross-examined by the complainants' counsel, testified as follows:

305 Cross-question 11. How long after the machines were procured was it before a license was obtained by your firm from Stainthorp & Co to use it?

Answer. At or about the time I stated they were purchased.

Cross-question 12. Are you a practical candle manufacturer?

Answer. No, sir.

Cross-question 13. What part of the business of the firm of H. McClellan & Co. did you attend to while a member thereof?

Answer. I acted as bookkeeper and as shipper of the goods.

Cross-question 14. Who superintended the manufacture of candles by the use of these machines for H. McClellan & Co.?

Answer. Henry McClellan.

Cross-question 15. Where is Henry McClellan now, if living?

Answer. The last heard from him was, that he was in San Francisco, California; he resides there.

Cross-question 16. How long has he resided there?

Answer. I should think about 15 months.

Cross-question 17. Where does George H. Power reside, who, you stated, was a member of the firm of Henry McClellan & Co.?

Answer. In Hudson, N. Y., and has always resided there to the best of my knowledge.

Cross-question 18. In your direct examination you state that these candle machines, which were sold by your firm to Gale & Hover, sometimes worked bad; state whether they did not sometimes work well?

Answer. As I stated before, they did.

Cross-question 19. Do you mean to state that these machines were bought of Stainthorp & Co. of your own personal knowledge, or do you only state it as matter of belief?

Answer. I state it that I know they were bought of them.

Cross-question 20. Please give the source of your knowledge on that subject.

Answer. I simply know this : that I was a member of the firm at that time, and the machines were talked of before being purchased, and I knew at the time that they were purchased by George H. Power, and shipped to Henry McClellan & Co. by them.

306 Cross-question 21. Do you know in what respects these machines were defective, or any of them?

Answer. In seeing the machines being worked, the platform where the lower ends of the pistons were fastened would not always rise up plumb with the moulds, therefore having the tip of the moulds pressing upon one side of the tip of the candle, causing them to break, and there being only one rack and pinion on each end of the machine the platform could not always be raised as it should, owing, sometimes, to the leakage of the tallow at the end of the moulds; and further, if there were two racks and pinions at both ends of each machine the machine would have more power, and naturally work better, and cause less pressure on any particular part of the tip, as I took particular pains to go to Stockport, Columbia county, N. Y., where Humiston's machines were being worked, and thought they had the advantage of the Stainthorp machine, as I have just stated.

Complainants' counsel here objects to the foregoing statement of the witness in relation to the Humiston's machine, as being volunteered and not called for by the question.

Cross-question 22. After you had been to Stockport and examined the Humiston machine as you have stated, did the firm of H. McClellan & Co. get any candle machines of Humiston?

Answer. No, sir, we did not.

Cross-question 23. How long did the firm of H. McClellan & Co. continue to manufacture candles by the Stainthorp machines, so called, after you had been to Stockport, as you have stated?

Answer. I cannot exactly say—perhaps from three to six months.

Cross-question 24. Have you in your answer to the twentieth interrogatory, stated as fully as you are able the defects which you think existed in the so-called Stainthorp machines?

Answer. There seems to be about this arrangement, defendant's exhibit (JJ,) something not exactly right in the arrangement of this rubber; and of the many times I noticed of the person working the machines, shifting of the small nuts on the side of the clamps to prevent the breaking of the tips of the candles.

Cross-question 25. If the platforms used in these machines had been made to raise and fall in the ways plumb with the moulds, or so that one end of the platform would not have been elevated

307 further or faster than the other end thereof, would not these difficulties or imperfections have been avoided to a considerable extent?

307 Answer. They would, providing one side did not go up any faster than the other.

Cross-question 26. Then if the platform moved up towards the candle moulds perfectly even and true, without the upper surface being more elevated in one part than in another, the difficulties which you have spoken of would have been likely to have been avoided, would they not?

Answer. To a great extent.

Cross-question 27. When did your firm sell these machines to Gale and Hover?

Answer. The first two were sold to them with the real estate belonging to John J. Gaul, at that time in the year 1862, or about that time. I don't recollect what part of the year the other machines, of which there were three sold to them some time afterwards.

Cross-question 28. Did your firm continue to use these machines in the manufacture of candles, as you have stated, until they sold to Gale and Hover?

Answer. We continued to use the machines as long as we were in business, and in Gale and Hover's having the property of John J. Gaul, they were paying rent on the two first machines mentioned, and we gave them permission to use the others until they bought them.

Cross-question 29. Can you state about how much Gale and Hover paid for each of these machines?

Answer. I could not, as they purchased articles used in the manufacture of soap at the same time.

Cross-question 30. Had Gale and Hover, or either of them, been acquainted with the construction and operation of these machines before they purchased them, and if they had, about how long?

As it regards Mr. Hover I could not say, but as to Mr. Gale being very well acquainted with Mr. Henry McClellan, he (Mr. Gale) having some idea of the business in being to our factory and seeing a great many candles manufactured by these machines. In regard to his further knowledge of the business I cannot say.

The witness being again examined by defendant's counsel, testified as follows:

Question 31. Why did you not purchase the Humiston machine after having examined them, as stated by you in answer to question twenty-two?

Answer. As we thought we had machines enough and did not care about increasing that business.

308 Question 32. If the candle-tip moulds were connected with the drive-rods by a loose or flexible joint, as in the Humiston machine, would the inequalities of the upward movement of the platform at all affect the tips of the candles injuriously or cause them to break as they did in the Stainthorp machines, where the piston was entirely rigid or stiff its full length?

Complainants' counsel objects to the last question: First, because this witness is not, as he has stated, practically acquainted with the manufacture of candles; second, because he does not appear to have ever used a candle machine having in it the loose or flexible joint in

quired about; third, because the subject matter inquired of is new matter here first asked the witness on this redirect examination; and fourth, because it is incompetent, irrelevant and immaterial.

Answer. It certainly would prevent the breaking of the tips, as it is necessary to have some part of the machine give to the tip of the candles while on its irregular upward movement, as I have taken notice of that while seeing our candle maker work the machines, and occasionally taken hold and worked it myself a couple of hours at a time.

On being further cross-examined the witness testified as follows:

Cross-question 33. What machines do you mean in your last answer as having seen your candle maker work?

Answer. Both machines—the Humiston and the Stainthorp.

WM. D. GAUL.

Subscribed and sworn to before me, this 2d day of January, 1864.

JOHN T. LAMPORT,
U. S. Examiner.

RICHARD H. REILLE, a witness by and on behalf of the defendant was produced, and, being by me duly sworn, testified as follows:

Question 1. What is your name, age, occupation, and place of residence?

Answer. My name is Richard H. Reille; I am twenty-seven years of age; I am a practical draughtsman, and I reside in the city of Troy, N. Y.; I have been such draughtsman for the last ten years, and I have made drawings on wood and stone for engravers and lithographers.

309 Question 2. Look at defendant's exhibit (P) and state by whom and what devices they were made?

Answer. They were made by me, and were made from models and patents of the devices which they represent.

Question 3. What do fig. 1, fig. 2, and fig. 3 of those drawings represent?

Answer. Figure 1 represents a drive rod, tip mould or piston, and candle mould of the Humiston machine; fig. 2 represents the drive rod, tip mould, and candle mould in Joseph Morgan's patent of May 22, 1834; and fig. 3 represents the drive rod, tip mould, and candle mould of John Stainthorp's patent of May 6, 1855; each of these figures are made from the same scale.

Question 4. Look at the drawings attached to defendant's exhibit (E) and state whether or not those drawings correctly represent the rack, tip bar, and candle-wick clasp secured by hinges to the upper part of defendant's exhibit (K,) now shown you?

Objected to by complainants' counsel, as the exhibits referred to will best show for themselves.

Answer. Yes, sir; I think it does.

The witness, being cross-examined by complainants' counsel, testified as follows:

Cross-question 5. Are you in the employ of Mr. Norton, the defendant's counsel in this case?

Answer. No further than I made those drawings.

Cross-question 6. From what did you make fig. 1, in exhibit (P)?

Answer. I think it was an actual working mould furnished by Mr. Norton to me; this, I think, was all I had to refer to.

Cross-question 7. From what did you make fig. 2 of that exhibit?

Answer. I made that from a working mould, too, I think, and also defendant's exhibit (B) and (D.) I had these two exhibits to look at.

Cross-question 8. Can you refer to the mould which you used to make fig. 2 from?

Answer. Yes, sir, I can. I referred to exhibit (L.)

Cross-question 9. Can you refer to the parts of exhibit (B) and (D) which you used in making fig. 2 of exhibit (P)?

Answer. I can. I referred to sheet one of the Morgan and Gaskell patent of 1852, and to the drawings on exhibit (B.) These are all I referred to.

310 Cross-question 10. From what did you make fig. 3 of exhibit (P)?

Answer. In making that figure I referred to defendant's exhibit (N.) That is all I referred to.

RICHARD H. REILLE.

Subscribed and sworn to, before me, this 2d day of January, 1864.

JOHN T. LAMPORT,

311 *United States Examiner.*

Circuit Court of the United States, northern district of New York.

JOHN STAINTHORP *et al.*, *vs.* WILLIS HUMISTON.

Deposition taken by R. E. Stillwell. Examined under the 67th rule of the Supreme Court of the United States, on part of complainants.

MONDAY, *May* 11, 1863.

Present: George Gifford, esq., counsel for complainants.
Adjourned to the 18th instant, at 11 a. m.

MONDAY, *May* 18, 1863.

Present: George Gifford, esq., counsel for complainants.
Adjourned to the 20th instant, at 10 a. m.

WEDNESDAY, *May* 20, 1863.

Present: George Gifford, esq., counsel for complainants; Marcus Norton, esq., counsel for defendant.

Q. 1. What is your name, age, residence, and occupation?

A. James Bowman, 36 years of age, reside at 135 Charles street, New York city, and am a chandler.

312 Q. 2. Are you a member of the firm of Holme & Bowman, soap and candle manufacturers, in this city, and about how long has that firm carried on that business?

A. I am; and they have carried on that business nine years, the first of May last.

Q. 3. State whether or not the defendant, Mr. Humiston, sold to your firm any machines, and if yea, how many, and when; for what purpose were those machines to be used?

A. He did, two; referring to the bill, I find it was November, 1861; they were used for making candles.

Q. 4. Did you at any time, and if so, about what time, show said candle machines which Mr. Humiston had sold to your firm, to Mr. Francis C. Treadwell, here present.

Objected to as immaterial and improper for any purposes of this suit.

A. Yes, sir.

Q. 5. Is there any mark of the maker's name on the machine which was sold to your firm by Mr. Humiston, and if so, what is it?

Objected to, first, as immaterial and improper; second, the machine should be produced, being the best evidence.

A. I can't say whether there is, or not; my impression is, that there is.

Cross-examined by Marcus P. Norton, esq.

Q. 6. Are you acquainted with John Stainthorp and Stephen Seguine, or either of them, complainants in this suit; and if so, for how long a time?

A. I am not acquainted with Stainthorp; I never saw him, to my knowledge; I know Mr. Seguine two or three years.

Q 7. Are you acquainted with, and do you understand the operation of the candle machine manufactured by complainants under complainant Stainthorp's patent of March 6, 1855?

A. I have seen the machines; never saw one in operation; never examined one particularly.

313 Q. 8. About how far is your place of business from that of complainant's?

A. I don't know as I know his place of business; his office is about a mile and three-quarters from our place, as near as I can guess.

Q. 9. Do you know anything as to the successful operation or utility of the said machine of complainant? And if so, state.

A. I don't know anything of my own knowledge.

Q. 10. Have you ever heard anything said by others engaged in the manufacture of candles concerning the said Stainthorp machine; and if so, by whom?

Objected to by complainants' solicitor, as calling for hearsay evidence, immaterial to the issues in the case, and inadmissible as evidence therein.

A. Yes, sir; I have heard a good many; I can't call the names of all of them, or half of them; John W. Morgan, Joseph Jones, Jones & Brothers, of New York; can't call any more names in New York; I know other parties, but can't call their names, my memory is poor; I just think of one now, John Watson, from western part of New York State, Courtland county.

Q. 11. What have you heard the gentlemen whom you have named,

and others whose names you do not now recollect, say concerning the said Stainthorp machine?

Objected to by complainants' counsel, for reasons above stated.

A. They seemed to have all the same story, that the machines don't give satisfaction; don't work well.

Q. 12. Why did you not purchase for your manufactory the said Stainthorp machine, instead of purchasing the machines referred to in your direct examination?

Objected to by complainants' counsel, as immaterial to the issues in this case.

A. From what I heard we concluded immediately that Humiston's was the best.

Q. 13. From all that you have heard said, and from all you know concerning said Stainthorp machine, is it in your judgment a successful and useful machine in the manufacture of candles?

314 Objected to by complainants' counsel, so far as the question calls for the witness's judgment, based upon hearsay statements, and because the witness has already stated he is not particularly familiar with the construction and operation of the Stainthorp machine.

A. No, sir; I should think it was not.

Q. 14. Is the Humiston machine, now in use by you, and referred to by you in your direct examination, a successful and useful machine in the manufacture of candles?

A. Yes, sir.

Q. 15. So far as your knowledge of that machine extends, is it so generally regarded by candle manufacturers?

Objected to by complainants' counsel.

A. They are regarded as successful and useful.

Q. 16. Who first saw you on the part of the complainant, in relation to being a witness in this case, and when?

A. I don't recollect distinctly; my impression is, that it was Francis C. Treadwell, jr., who called to examine the machine; it was last summer; I don't recollect the date.

Q. 17. Who was with him at the time?

A. I don't recollect any one; there may have been some one.

Q. 18. Has Mr. Seguine, one of the complainants, ever seen you, or had conversation with you in relation to the Humiston machines referred to by you in your direct examination?

A. He has.

Q. 19. State the number of interviews, and the substance of the conversation at such a time, and in relation to those machines, as near as you can now recollect.

Objected to by complainants' counsel.

A. Two or three times, principally in relation to making an affidavit as regards the purchase of the machine from Humiston.

Q. 20. Did Seguine at any of these interviews, or has he by written conversation or otherwise threatened you with suit for the use of the Humiston machine, unless you settled with, and paid him a royalty for such use?

A. Yes, sir.

Q. 21. Notwithstanding these threats, do you still prefer,
315 and do you still use the Humiston machine referred to in your direct examination.

A. We do.

Q. 22. Did Seguine at any such time, or has he, by written communication or otherwise, requested you to cease the use of the said machine, and to substitute, in place and stead thereof, machines built by complainants for the manufacture of candles, under their patent of March 6th, 1855?

A. He never has to me, to my knowledge, nor to my firm, that I know of.

Q. 23. Did Mr. Humiston ever solicit of you or your firm to purchase of him the machines referred to in your direct examination?

A. No, sir.

Q. 24. Did you pay to Stainthorp & Co. a royalty or tariff upon the machine above referred to; and if so, how much, under what circumstances, and for what reason did you pay it?

A. I did. I think it was $190—I may be mistaken, though, but it was in that neighborhood. By calling on us several times, and their stating that they were entitled to it, and save the expense of a lawsuit, which he threatened.

Q. 25. Who saw Mr. Humiston, in relation to the purchase of the machines referred to in your direct examination, and where was it?

A. There was no personal interviews; it was done by letter from our firm?

Direct resumed by Mr. Gifford:

Q. 26. In your answer to the 24th interrogatory you say that you paid a royalty for machines. How many machines do you mean?

A. I can't exactly say; we had some that we paid other parties for, and this amount was to settle the others that we had—the two spoken of.

Q. 27. Had you not at the time of the payment had as many as five machines from Mr. Humiston?

316 A. Not from Mr. Humiston, but Mr. Humiston's make; we had seven altogether—all Humiston machines.

Q. 28. Did not Stainthorp & Co. claim that all of those machines were infringements upon the patent?

A. No, sir.

Q. 29. What was the difference in them?

A. There was no difference in the machines, only that we purchased them from other parties and paid so much for Stainthorp's right—that is, that we purchased Stainthorp's right with the machine.

Q. 30. How many of the seven had you purchased from other parties with the Stainthorp right, as you have mentioned?

A. Three, I believe, although they put down one as not being worth anything.

Q. 31. Did Stainthorp & Co. inform you what was the regular price of a machine for the right to use; and if yea, what was it?

A. Yes, sir; they seemed to have two different prices—$50 and $60 on each machine.

The defendant here admits that he has been, ever since the 22d day of January, 1861, making and vending candle machines, like, in every essential particular, the two iron frame machines sold to Holme & Bowman, and testified to by Mr. Bowman in his direct examination; and that he so made and vended them in Troy, New York.

MARCUS P. NORTON,
Sol. for Deft., Troy, N. Y.

Subscribed and sworn to before me, this 20th May, 1863.

R. E. STILWELL,
Examiner, &c.

JAMES BOWMAN.

Francis C. Treadwell, jr., being called and sworn on the part of the complainants, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

317 A. Francis C. Treadwell, 39 years of age, reside in the city of New York, and am solicitor of patents and consulting engineer.

Q. 2. State what opportunities you have had and for how many years for becoming acquainted with machinery, or mechanism, and especially with reference to machinery for making candles.

A. I have pursued my profession as solicitor of patents and consulting engineer for the past seven or eight years, and during that time have examined a great many complicated machines of various kinds, and prepared specifications for letters patent for many of them; I have also superintended the construction of machinery during that time. Some four or five years ago my attention was called to the manufacture of candles by machinery by the chemist of a kerosene oil company, who was endeavoring to perfect the manufacture of candles from paraffine, and I made some examination at that time of the state of the art of making candles by machinery, and tried some experiments with him. Afterwards I was employed to examine the Camp machines with reference to old prior machines, and the machine known as the Humiston machine, and testified as expert in a suit tried before the honorable Judge Hall, at Canandaigua, which suit, I believe, was brought by Camp against Thorne & Maynard, who were using the machine manufactured by Humiston; in that case I was employed by Stainthorp & Company, who defended the suit. I have since that time seen a great number of candle machines, and witnessed their operation, and am familiar with the construction and operation of machines such as described in the Stainthorp patent. I have frequently testified as expert, in other patent causes and in contested cases in the Patent Office.

Q. 3. Have you read and do you understand the contents of letters patent of the United States granted to John Stainthorp for improvements in machinery for making candles, dated March 6, 1855?

A. I have read a certified copy of said letters patent, and believe that I do understand the contents thereof.

Q. 4. State whether or not the description therein contained is sufficient to enable a mechanic acquainted with the art to
318 successfully construct and operate the machine therein described.

A. It is.

Q. 5. Look at the model now shown to you, and marked by the examiner, "Exhibit A, Stainthorp," and state what it represents.

A. It is a copy of the model on file at the Patent Office of the said Stainthorp patent.

Q. 6. Have you examined machines for making candles at the establishment of Holme & Bowman in this city, if so, about what time, how many, and who showed them to you?

A. I have examined candle machines at said establishment two different times; the first in March, 1862; I went there with Mr. Seguine and an elderly gentleman, Mr. Holme, as I understood from him his name, showed them to me; the second time, I went alone, and Mr. Bowman showed them to me; this was, I believe, in June, 1862; there were five machines there both times, three of them with wooden frames, and two of them with iron frames, I believe, which latter Mr. Bowman said were a recent purchase; both wooden, and iron machines were the same in construction, and they were all marked with the manufacturer's name.

Q. 7. With whose name were the two iron machines marked as the manufacturer?

A. They were marked "Willis Humiston, manufacturer and patentee, Troy, New York;" the others were also marked in a similar manner.

Q. 8. State whether or not the machines which you examined at Holme & Bowman's, and which were shown to you by Mr. Bowman, contained any part of the invention described in the patent abovementioned, granted to Stainthorp, and dated March 6, 1855, and if yea, state what part of said invention they contained.

Objected to, as not calling for any part of the invention in this suit.

A. They did contain the combination specified in the first claim of the patent to John Stainthorp, of March 6, 1855; I found in said machines a combination of stationary candle moulds, with what
319 are called in said patent, pistons D D., formed at their upper ends into moulds for the tips of the candles, the combination being such as to throw out the candles from the moulds in a vertical direction, substantially as described in said Stainthorp patent, and by substantially the same means; or, in other words, I found said machines to be organized machines, having stationary candle moulds, combined with plungers, or pistons, formed into tip moulds at their upper end, of sufficient length to throw out the candles from the moulds in a vertical direction, and so organized with the machine as to perform that operation when the candles were ready to be ejected from the moulds; the plungers, or pistons, were hollow for the passage of the wick, as described in said Stainthorp patent; I witnessed

the operation of throwing out the candles from the moulds of one of these machines, and found that the candles were thrown out, or ejected from the moulds in a vertical direction by said combination of piston and stationary moulds; the pistons, or plungers, in said machine were made in two parts, so as to slip one upon the other, in the manner of telescope joints, for a very short distance, but the two parts were secured together, so that they, in effect and purpose, were as one piston, or plunger, with a tip mould in the upper end, so far as the operation of throwing the candles out of the moulds in a vertical direction is concerned, and I regard the difference between such piston, so constructed, and the pistons described and shown in the Stainthorp patent as merely formal, and not substantial in respect to the combination of stationary moulds and pistons specified in the first claim of said patent, as I have before stated.

Q. 9. State whether or not you have operated, or seen operated, and how often, candle machines, made, and operated according to said Stainthorp patent?

A. I can't say how often, but I have a number of times seen such machines operate as were made by Stainthorp & Co., under their patent, and substantially the same as the machine described therein.

Q. 10. What do you say as to the utility of the machines described in the Stainthorp patent?

A. I consider the machine a very useful machine. The leading and characteristic feature about it is its capacity to receive the
320 melted fat in the moulds, and hold it therein until the candles are formed and cooled, and to then eject the candles from the moulds at one operation, without having moved the candle-mould from the time the candles were formed until they were delivered from the moulds, and without the aid of pinchers or other implements formally used to remove the candles. This capacity of the machine permits the casting of a large number of candles at once by one operation of pouring and the removal of them all, by simply lifting the platen with which the pistons are connected. I cannot conceive of any mechanism, whereby the operation of casting and removing the candles could be further simplified, there being, as I have before stated, but the two operations, forming, and lifting the candles out of the moulds by the pistons.

Q. 11. Look at the model now shown you, and marked "exhibit B, Humiston," and state what it represents?

A. It represents substantially the Humiston machines; I examined at Holme & Bowman's, as I have before stated, the pistons or plungers, and stationary candle moulds, and the mechanism for working them is substantially represented in the clamps in the machines; I saw them have linings of canvas.

Q. 12. Were you present in court on the final hearing of a cause, in the city of New York, between Stainthorp, Seguine, and Hunter, complainants, and Willis Humiston, defendant, in the spring of 1859, which suit was brought for an alleged infringement by said Humiston of the Stainthorp patent?

Objected to as unimportant; and second, that the records of that suit should be produced and offered in evidence, if at all material for any purposes in this suit; third, that suit, or any evidence in relation therto is immaterial for any purposes in this suit; fourth, the record of that suit, and the proceedings therein cannot be proven by parole evidence.

A. Yes, I was present at the final hearing of the case referred to; it was before Judge Hall, and I recollect seeing Mr. Stainthorp and Mr. Humiston present.

Q. 13. Did you, at that time, see and examine defendant's
321 machine, there in court, which was alleged by the complainants to be an infringement upon the Stainthorp patent?

Objected to, for the reason that this suit is brought for an alleged infringement of complainants' patent, since January, 1861, and since the final hearing of that cause.

A. I did see and examine a machine in court at that time, which was referred to by the counsel, as the infringing machine, said to be Mr. Humiston's manufacturing.

Q. 14. How did that machine correspond with, or differ from the machines which you examined at Holme & Bowman's, as you have stated, in construction and operation?

Objected to, first, this suit is not brought for any alleged violation of complainants' patent upon the machine then in court; second, this suit is brought for alleged infringement of complainants' patent in the manfacture and sale of the machines sold to Holme & Bowman; third, immaterial; fourth, incompetent.

A. They were the same in all essential particulars, as near as I can recollect; the frame of the machine I saw in court, I believe of wood; it contained the stationary candle moulds, and the piston in combination in the same manner, and the pistons were used to throw out the candles from the moulds in a vertical direction.

Q. 15. How does the model in this suit, marked "exhibit B, Humiston," correspond with or differ from said Humiston machine which you saw in court, in New York, as you have before stated?

Objected to for the same reason above given.

A. It is a representation of it in the particulars I have before stated; it does not contain as many candle moulds, and the clamps in this model are not lined with canvas as, I believe, the clamps were in said machine; I cannot pretend at this distance of time to recollect all the particulars of the construction of the machine I examined in court.

Cross-examined by Mr. Norton, counsel for defendants.

Q. Of how many distinct and separate devices is the combination formed and covered by the first claim of complainants' patent for an
322 improvement in machines for making candles, dated March 6, 1855.

Objected to by complainants' counsel, as the subject matter inquired about is more properly a question for the court than for the witness.

A. There are two classes of devices, mentioned in the first claim, as being employed in combination substantially as described in the patent.

Q. What two devices in the Stainthorp machine formed the combination covered by the first claim of compainants' said patent?

The witness is requested by the defendant's counsel to name the devices referred to in the question, without regard to the description of the same, in and by said patent.

A. There are no devices covered by the first claim of said patent, as I understand it, without regard to the description of the patent, to which the claim specifically refers; I cannot, therefore, name two devices as being, in my opinion, covered by the first claim, without reference to the description which qualifies and characterizes the devices mentioned in the claim and their functions.

Q. Do you find in the said first claim of the said patent a device or devices called a piston or pistons?

A. I find in said claim the words "pistons D D, formed at their upper ends into moulds for the tips of the candles."

The last part of the answer commencing with the word "formed" objected to by defendant's counsel as not responsive to the question.

Q. Do you find in said claim a device, or devices called stationary candle-moulds?

A. I find mentioned in said claim, the words "stationary candle moulds."

Q. Is not the combination of devices covered by said first claim made up of two separate and distinct devices known and called, in and by the specifications in said patent, pistons and stationary candle moulds?

A. I consider the claim more limited than the breadth of the question imports; the devices mentioned are "piston D D, formed at their upper ends into moulds for the tips of candles in combination with stationary candle moulds," and this is further qualified by the words "to throw out the candles in a vertical direction," and further still, by the words "substantially as herein set forth," which obliges
323 me to refer to the description and drawings of the patent, to ascertain the particular combination specified, or in other words to ascertain the meaning of the words "stationary candle moulds," and the words "pistons D D," as used in the claim which thus specifically refers to the description and drawings, for a definition of the terms used therein; with this explanation, I consider that the said first claim embodies and is made up of such a combination, substantially as is described of stationary candle moulds, and pistons D D, operating in combination substantially as described and shown.

All the answer objected to as not responsive to the questions by defendant's counsel.

Q. Question repeated?

A. I cannot answer the question any better than I have done.

Q. Do not the words "*formed at their upper ends into moulds for the tips of the candles,*" mentioned in the said first claim, refer to

and describe *the kind* of device employed and called "pistons" in the specifications of the said patent?

A. The words quoted in the question refer to devices which are described in the specifiation as follows: "D D, &c, the pistons which are provided with their tip moulds, (E E, &c.;") they also refer to the drawings by letter of reference "D D," used in the claim in connexion with the words quoted; the words quoted may be regarded as a description of said devices when taken in connexion with what there is in the specifiation that is connected with them by the words "substantially as herein set forth," also contained in the claim.

All the answer objected to by defendant's counsel, on the ground, 1st, that is evasive; 2d, frivolous; 3d, not responsive to the question.

Q. 23. Question repeated.

A. I cannot answer the question, as I understand it, any better; I have endeavored to state exactly what I consider the words quoted refer to.

Q. 24. Do you understand the last question?

A. I believe I do.

Q. 25. Explain what is meant by "stationary candle moulds," 324 the second device mentioned in the said first claim as forming a part of the combination covered by the said first claim.

Objected to by complainants' counsel, because the subject-matter inquired about in the question is more properly for the court to determine than for the witness.

A. My understanding of the words quoted is, that the candle moulds shall be organized in a machine which is not separated from the plungers or piston D D, and therefore the candle moulds are stationary with respect to the other co-operative devices with which they are combined; and further, that they are stationary candle moulds in the combination substantially set forth in the specification; by which I understand they are placed vertically in the machine, so as to permit of their being filled with melted tallow, or other candle stock, without being handled after the candles are thrown out of the mould, and to contain such melted material until the candles are hardened and thrown out of the moulds.

Q. 26. What is the difference between these vertical stationary candle moulds, as described by you in your last answer, and the cylinder of a steam-engine placed in a vertical position?

A. There is a great difference; full as much as there is between a lady's thimble and a soup kettle, which have some general resemblance to each other in respect that they are both hollow forms of metal. The cylinder of a steam engine is generally made of cast iron, which is a metal unsuitable for candle moulds; it has, near each end, what are called steam and exhaust parts, which candle moulds have not; it has what are called heads at each end to keep in the steam, which candle moulds have not, else candles could not be formed; it is of uniform diameter, from end to end, else the steam would pass the piston, and the cylinders be worthless. Candle moulds are slightly tapered in their interior diameter, in order that the candle may be readily removed from them; the only things

in which they agree, that I can think of, is that they are pieces of metal with holes through them, in which respect they also agree with many other things.

Q. 26. Would the vertical and stationary position of the
325 one agree with the vertical and stationary position of the other?

A. I cannot see any mechanical agreement between the vertical position of the Stainthorp candle moulds and the vertical position of the cylinder of a steam-engine, when it happens to be placed in a vertical position, any more than there is a mechanical agreement between any two things which may happen to stand on the earth perpendicularly; besides, in the combination described in said patent, there is an obvious utility in the vertical position of the candle moulds, which, being open at the top, are to contain melted material, and which are not to be moved about. The cylinder of a steam-engine operates in either a horizontal or a vertical position, sometimes upside down, in a vertical position, as the caprice or design of the constructor places it in the engine; the two things have nothing in common with each other mechanically.

Q. 28. Is the vertical position and the stationary candle mould, in themselves considered, covered by the said first claim of the said patent?

Objected to by complainants' counsel as being more properly a question for the court than for the witness.

Witness asks—

Q. Do you mean irrespective of the combination specified in the claim?

Defendant's counsel replies: "I mean just what my last question calls for; no more, no less."

A. As the counsel refuses to explain his question, I will answer it with the understanding that the question asked me, if the vertical position of stationary candle moulds is claimed in the first claim, irrespective of the combination specified therein, in my opinion it is not claimed irrespective of the combination specified in the claim.

Q. 29. Do you understand question No. 28?

A. I am not certain that I do; if I had been certain I should not have asked for an explanation; but being refused and compelled to
make the best of it, to avoid being misunderstood, I have
326 stated what I have assumed the question to mean.

Q. 30. What particular part of the question is it which you do not understand?

A. I understand all the words, but their relation to each other I do not exactly comprehend. For instance, the relation of is, "to considered," and the relation of "and" to vertical position, "and the stationary candle moulds," and the relation of the words "in themselves considered," to the question as a whole.

Q. 31. You do not, then, understand the question, or any of the parts of the machine referred to therein, as to whether the same are all covered by the said patent of complainants.

A. I don't think I do understand the question; but I do believe I

understand the only part of the machine referred to in the question, "stationary candle moulds," and I believe I do understand whether they are separately claimed, or in other words, specially covered or set forth as the invention patented in said patent.

Q. 32. Are the pistons D D, described in the specifications of said patent and referred to in the said first claim as being "formed at their upper ends into moulds for the tips of the candles," in themselves separately, or collectively covered by the first claim in said patent?

Objected to by complainants' counsel for the reasons last above stated.

A. I do not understand them to be claimed in said patent out of the combination of stationary candle moulds specified in said first claim.

Q. 33. What is meant by the words "to throw out the candles in a vertical direction," and do not the same refer to the manner of the operation of the pistons referred to in and by the said first claim, and described in and by the specification of said patent?

A. I understand it to be a form of expression employed to characterize the entire combination of stationary candle moulds with the pistons provided with tip moulds as described in the patent, and to mean that the combination must be such that the candles can be moulded and thrown out in a vertical direction from stationary
327 candle moulds, substantially as described. The pistons have no operation to throw out the candles in any given direction without the co-operative operation of the candle moulds. It takes both to perform the operation referred to in the claim.

All of the answer is objected to by the defendant's counsel—first, evasive; second, as not responsive to the question.

Q. 34. Question repeated.

A. I can't answer it better; I have stated, as the question desired, what I understand the words quoted to mean.

Q. 35. Do you understand the last question?

A. Yes.

Q. 36. Could not candles be forced from the moulds in said Stainthorp machine if said pistons of that machine were placed in a horizontal position, or upon an angle of 45 degrees?

A. Yes; after they were set in the moulds they might.

Q. 37. For what purpose are these stationary moulds in the Stainthorp machine, placed in a stationary vertical position?

A. They are placed in a vertical position for the purpose of forming them, and they are made stationary with respect to the rest of the machine in order to save labor in moving them about, and that they may be discharged of their candles by the simple operation of lifting the platen which elevates the plungers, or "pistons D D;" if they were poured while in a vertical position, and then undertaken to be discharged while in a horizontal position, a movement of some operative would be required, which would take time and labor, which is saved, as I have before stated, by combination which requires only two operations, that of pouring and throwing out the candles.

Q. 38. What is the real invention set forth in the specification, and covered by the said first claim of the said patent?

Objected to by complainants' counsel, as the question calls for an answer to subject-matters which more properly belongs to the court.

A. As I understand it, it is a labor-saving combination, of two classes of devices combined together to perform the functions
328 of a candle machine, so far as they go in a peculiar manner, whereby labor is saved.

Adjourned to 10 a. m., the 20th instant.

May 21, 1863, counsel for respective parties present.

Q. 39. You say, in your direct examination, that you have read the specifications and claims of the said patent; and you also say that the Stainthorp machine is a labor-saving machine; please explain in what manner it is a labor-saving machine, and distinctly define what kind of labor you save by the use of a machine made under that patent.

A. The kind of labor saved in manual labor; that is the only kind of labor that I know of, described by the term "saving of labor;" so far as the first clause of the claim is concerned, I have, in my previous answers, explained fully in what manner it is a labor-saving machine; if you wish me to go into the machine, or the patent at large, I will extend my explanation.

Q. 40. What manual labor is saved by the Stainthorp machine?

Witness asks: Do you wish me to answer the question by comparing the Stainthorp machine with the primitive mode of dipping candles; if not, please afford me the means of making a comparison, whereby I can determine, as far as possible, the difference of labor employed in making candles by the Stainthorp machine.

Q. 41. Do you understand the last question as stated?

A. Yes.

Q. 42. Question 40 repeated.

A. In order to show the saving of labor of a machine, some basis of calculation or comparison must be assumed; the question, therefore, necessary involves the assumption that some way of making candles existed before the Stainthorp patent. The patent sets forth, that it is for a new and useful "improvement in a machine for making candles," and it is distinguished in the commencement of the specification as a "clasp and piston candle moulding machine," which terms
329 being interpreted by the description and drawings taken in connexion with the claims, which are the summary of the improvements patented, convey to my mind that the machine is distinguished, as a whole, from other machines, by having the capacity to mould and deliver candles from the moulds by two operations, without intervening movement of the candle moulds, and also the capacity to receive and hold the candles, when delivered from it, by the candles themselves, the wicks being centered and drawn straight in the moulds by the retreating motion of the pistons, which are made hollow throughout the whole or a part of their lengths, for the purpose of making the machine a continuous wicking machine; taking the machine as a whole, with all the fnnctions I have just mentioned embodied in it, is saves just the difference of labor over any other

machine that is deficient in some or any of these leading functions; as, for instance, if the candles were merely started in the moulds by the operation of short moveable nozzles, and they were afterwards drawn out by pinchers, attached by the workmen to the wicks above the candle, it would be an operation involving labor, which is saved by the Stainthorp machine; if the candles had no receptacle provided to hold them in a vertical position above the candle moulds, the wicks would have to be cut off, the candles removed, and the wicks then attached to some device to hold them in the centre of the mould, which would be an operation requiring the labor of an operative, not required in the Stainthorp machine. If the moulds were separate from the pistons or plungers, so that the moulds required first to be filled, next to be set away to cool, next to be brought to and placed in the horizontal position before a row of horizontal moving rods, with pinchers or spring catches on the ends of them, whereby moveable nozzles in the moulds were forced through the moulds to eject the candles, that would be an operation requiring time and labor, which is not required in the use of the Stainthorp machine. I have endeavored to explain, as well as I can, some of the leading advantages of the Stainthorp combination over machines and modes of operation which do not embrace the combinations or their equivalents patented in the Stainthorp patent. I have never practically run the
330 machines, and cannot make an estimate in dollars and cents of the exact amount of labor saved by the use of the invention of Stainthorp. The invention of Stainthorp, of course, is not to be credited with the entire saving of labor of the machine in which it is embodied, over the tedious candle dipping process, because in it are embodied many devices or parts of devices which have gradually developed themselves in the progress of the art of making candles by machinery.

The whole of the answer objected to by defendant's counsel—first, as not responsive to the question; second, designedly evasive, if, as the witness says, he understands the question; third, frivolous; fourth, argument of witness.

Q. How and by what means do you know that there is labor of any kind saved by the use of a candle machine made according to the specifications and claims of the said Stainthorp patent?

A. Because, when a boy, I used to run candles occasionally in the evening with a set of moulds; my mother used to have to utelize the tallow in the kitchen, and because I have since seen a good many different machines which did not have the combinations specified as the invention of Stainthorp. One that came the nearest to it was a machine that lifted up the candles about two-thirds of the moulds, and then took hold of them by clamps and lifted them up the rest of the way by a crank and rack attached to the clamps which I saw in Troy, at Humiston's candle machine factory; but this machine involved two sets of lifting apparatus, the operator had to hold on to one, while he transferred the candles to the other by closing the clamps on the candles, and then go to work on the lifting mechanism attached to the clamps, which was an extra expenditure of labor, time and machinery.

Defendant's counsel objects to all the foregoing answer—first, not responsive to the question; second, evasive; third, frivolous.

Q. 44. Question repeated.

A. I might add to my last answer an additional reason, that I have seen machines constructed substantially in accordance with said claims and specifications, and I have also seen a great many machines containing the first claim, and a substitute for the second; and,
331 also, because that if the thing was not of value, it would not be used extensively as it is.

Q. 45. Did you ever make a candle machine; and if so, when, and what was the construction and operation of the same?

A. I never made one with my own hands; I have superintended the construction of an experimental machine designed to make paraffine candles by aid of an hydraulic press to force the material through a pipe, into which a wick was fed by a core-holder. I also superintended the construction of a model of a candle machine, which was described to me as having been used in Nantucket; this had vertical candle moulds, with a continuous wick through them, on which the candles were hauled up, after they were started, similar to strings of sausages; I don't recollect at this moment of participating in the construction of any other candle machine.

Q. 46. As superintendent in the construction of these machines, stated by you in your last answer, what special direction did you give, and what aid did you render in their construction, and were these machines successful and practical machines?

A. The machine I spoke of, I made the drawing of, and gave directions for its construction at Hoe & Co.'s, and I attended there several times to see that it was properly made; I don't know what was ever done with it; it was delivered to the Kerosene Oil Company, who, at that time, broke up their paraffine house to make room for other works, and abandoned the manufacture of paraffine. The machine was not of my invention; it was an experiment suggested by the chemist of the company, and put into shape by me; the model was very successful as a model; I made small candles in it; it was in court at Canandaigua; I afterwards, I think, saw it in Stainthorp & Co.'s establishment; where it is now, I don't know; the part I had in the construction of it was to take the description from the person who said he saw the original machine, and by aid of some rude sketches, which I made, I directed the relative size, proportion, and arrangement of the parts of the model, which was constructed by a model-maker; and, I believe, the person who described the machine
332 to me went with me once or twice to see whether the model correctly represented the old machine, in order that he could verify it in court; I was directed by Mr. Gifford, as counsel for Stainthorp & Co., to have this model constructed at the time I was employed to make investigation and examine machines for making candles preparatory to the Canandaigua trial.

Q. 47. Did you ever make candles in or by the use of the Stainthorp machine, constructed in accordance with complainants' patent; and [and] if so, when, where, and how many did you make?

A. I don't now recollect making any candles myself in the Stainthorp machine, but I have seen them made and thrown out of the moulds in Stainthorp & Co.'s factory, and I have seen a great many machines operated which contained the first claim of the patent.

Q. 48. How extensively in use is the Stainthorp candle machine constructed in accordance with the specification and drawings of complainants' patent? Where and by whom are such machines now in use?

A. I can't state how extensively they are used.

Q. 49. Do you know of a single instance during the history of the world up to the present time, of a candle machine constructed in accordance with complainants' patent, specification, and drawings thereof, ever having been put into successful and practical use? And if so, state when, where, and by whom such machine was constructed; also when, where, and by whom such machine was used, as called for by the first part of this question.

A. I consider the machines I saw at Messrs. Holme & Bowman's constructed substantially in accordance with the specification and drawings, so far as respects the first claim; and they contain a substitute which effects the same result as the second claim; but if the question means to ask me if I have ever seen a machine constructed in all respects exactly like the drawing of the Stainthorp patent, I never have seen such a machine to my knowledge.

Q. 50. Independent of the second and last claim of the Stainthorp patent, could a machine be put into successful use and operation if made under the first claim of the said patent, and in conformity to the specification of that patent, relating only to the said first claim?

333 A. Yes; so far as the operation of the combination claimed in the first claim is concerned.

Q. 51. Under such construction as referred to in the last question and answer, could candles be forced by the pistons entirely out of the moulds, and in a vertical direction, without breaking the tips of the candles or otherwise injuring the candles?

A. I think they could; it would depend something upon the shape of the tip.

Q. 52. Suppose the tip to be made just as described in Stainthorp's patent, what then?

Objected to by complainants' counsel because it does not appear in the Stainthorp patent that he limits himself to any definite shape of the tip of the candle.

A. I don't see that the Stainthorp patent is limited to any particular kind of tip, but taking the descriptions and drawings as a whole, I consider that candles could be projected entirely out of the moulds without spoiling the tips, unless the tips were very long and thin.

Q. 53. Is the tip, mould, and piston described in complainants' said patent covered by either claim of that patent? And if so, which?

A. I have already stated that it is not specifically claimed out of the combination specified in the first claim so far as my judgment goes.

Q. 54. Is the stationary candle mould described in the specification of complainants' said patent, covered by either claim of that patent? And if so, by which one?

Objected to by complainants' counsel as being more properly a question for the court than for the witness.

A. So far as my judgment goes, it is not claimed out of the combination specified in the first claim.

Q. 55. If a machine having moulds like those described in the said Stainthorp patent, and having pistons like those described in said patent, and placed in a vertical position, which pistons should force the candles outward from said moulds to within about one inch of the upper end of the said moulds, and there remain to be taken therefrom by other machinery, would such machine infringe the first claim of complainants' said patent?

334 Objected to by complainants' counsel as belonging more properly to the court than to the witness to decide.

A. Well, in my judgment, I think the description, by stating that the candles are ejected by the pistons and thrown out of the moulds into the racks, and the claim characterizing the combination by the words throw out the candles in a vertical direction, is sufficiently definite to exclude the combination specified in the question.

Q. 56. Suppose the tip mould of a candle machine, having stationary candle moulds, to be made somewhat short in length, and the same connected to a piston-rod or drive-rod, so as to remain stationary thereon, or so constructed as to be removed or disconnected therefrom, would such a machine contain the combination called for by the first claim of complainants' said patent, and the specifications relating to said patent?

Objected to by complainants' counsel because too indefinite to admit of an answer.

A. It might, or it might not, it would depend upon how the machine is constructed; if constructed in all other respects like the Stainthorp machine, as specified in the description and first claim, with the exception of having the "pistons D D" made in two parts instead of one, connected together in any mechanical way which would admit of their being separated when the organization of the machine is broken up, I should consider it was substantially the same, and that the difference was formal as respects that claim, although it might constitute an additional improvement in the combination, which, in itself considered, would be out of the combination claimed.

Q. 57. What do you mean by formal difference?

A. I mean a difference of mere form of construction when using the words in their general sense, but when using the words as in my last answer, I mean that the different construction referred to does not interfere with the device, being substantially the same in the combination, although containing a difference in structure which may improve it.

Q. 58. Does the length of the piston in the Stainthorp patent, as therein described, at all affect, or enter into the combination covered by the first claim of that patent?

335 Objected to by complainant's counsel as being a question for the court, and not for the witness.

A. The pistons D D, and tip moulds E, in said patent, must of course be made long enough to enable the combination to throw out the candles, otherwise the combination would not be substantially as described in the patent.

Q. 59. Suppose the piston mentioned in the said patent could be made shorter than the stationary candle mould described in the said patent, would that fact at all affect the combination covered by the said first claim?

A. As I stated in my last answer, unless the device employed to throw out the candle from the mould be long enough to do it, it won't be the device substantially described in the combination of the first claim.

Q. 60. Do you mean then to be understood that the combination covered by the said first claim necessarily depends upon the length of the stationary candle moulds and upon the length of the pistons; or, in other words, upon the length of the material used?

A. No, I don't mean to say any such thing; it depends upon a good many things.

Defendant's counsel objects to any further answer to the last question, the witness having already fully answered the question in the following words, to wit: "No, I don't mean to say any such thing." Second, no further reply can be made responsive to the question.

Witness continues: As I have before stated, whether the device employed for throwing out the candles be of one or two pieces of material, it must be sufficiently long to do the work; in long moulds, of course, the length of material or materials used would be greater than in short moulds.

Q. 61. Suppose that the stationary candle mould and piston be constructed as described in the specification of complainants' said patent, and in length about two inches each, would the combination of such devices be the same as that covered by the said first claim of that patent, so that candles made therein shall be about two inches in length?

336 A. If the combination is such as to make practical candles, and throw them out of the candle moulds substantially, as described in the Stainthorp patent, I don't see that the length of the moulds, or candles, would change it in any way.

Q. 62. Suppose that such devices in combination, such as described in the last answer, and such as described in complainants' said patent in reference to said first claim, should be used in any other than a vertical direction, would that fact at all affect the combination covered by the said first claim of that patent?

Objected to by complainants' counsel as being a question for the court and not for the witness.

A. I don't know as it would; if one were to pour the candles in the Stainthorp machine and wait until they were set, and then be fool enough to upset the machine before he commenced starting out

the candles, I think he would use the invention described and specified in the first claim of said patent; in my view the claim is not a claim for the mere operation of the mechanism in any direction, it is a claim for a combination of mechanism arranged and combined subtantially as described, having the operation described; if one choses to take this mechanism, organized as described, and use it differently from its natural mode of operation, he only inflicts upon himself useless labor, without getting rid of the fact that he is using the same machine.

Q. 63. You say, in your direct examination, that you consider the Stainthorp machine, made in accordance to their patent, a very useful machine; now, never having made one of those machines, or made candles in them, as testified by you, upon what basis do you form your judgment as to the utility of that machine as constrncted?

A. Upon the same basis that I form my opinion of the utility of the sewing machine described in Elias Howe's patent; the Wilson patents and other patents, never having made a machine, nor sewed on one, but having witnessed the operations of the machines containing the invention patented in those patents; as I have before stated, I have witnessed the operation of machines constructed substantially as described in the Stainthorp patent as respects the first claim, and I have not the slightest doubt of the utility of the combination specified in that claim.

337 Q. 64. Should persons who had used the Stainthorp machine swear that the said machine is of no value whatever, or that such machine cannot be successfully used in the manufacture of candles, and that candle manufacturers in this country generally condemn such machine, and refuse to use it, would you, under such circumstances, as an expert of many years' experience, call that machine a useful machine?

Objected to by complainants' counsel.

A. Yes, I would; as an expert, my experience has been that people who swear to such statements have not a proper judgment upon the subject; an invention and machine may be of great utility in a manufacture, and yet the inventor who attempts to manufacture it may not have as great a mechanical skill as some machinist who appropriates the invention, and manufactures it with some slight difference of form or some slight improvement, for which the Patent Office gives him a patent; and the manufacturer who uses the better constructed machine, which is probably offered to him at a price which does not include a patent fee for the invention, is induced to believe that the inventor's machine and invention is good for nothing, because it may not be quite so good a machine as he can get at a less price which contains the whole invention with a little addition; as an expert I am not accustomed to regard opinions of manufacturers about the utility of inventions for which they are called upon to pay money to the inventor; the history of inventions is, that inventors and their machines are generally derided by manufacturers who use them, and machinists who appropriate their invention, who, I suppose, consider that they relieve the moral turpitude of their acts by the mental salvo, that, after all, the thing we took from the inventor was not good for anything until we got it.

Q. 65. Do you believe, then, that a mowing machine that won't cut grass well and successfully is just as good and valuable or useful as one that will?

A. No, I don't.

Q. 66. Do you believe that an expert who has never used a machine is just as good, or a little better judge, than a person who has used such a machine, as to its utility?

338 Objected to by complainants' counsel, because the belief of the witness is immaterial to the issues in this case, and not evidence therein.

A. Yes, I do, if—

Defendant's counsel objects to any further answer, for the following reasons: first, that the witness has already fully answered the question in the following words, "Yes, I do;" second, any further reply cannot be responsive to the question; third, the witness has no right to argue the case.

Complainants' counsel says that the witness was proceeding with his answer when he was interrupted by the defendant's counsel.

Defendant's counsel denies the assertion, and says the answer has already been fully given in the following words, to wit: "Yes, I do."

Witness continues: As I was proceeding to say, when interrupted, if the expert has had opportunity to become informed as to the operation of the machinery contained in said machine, by witnessing the operation of the principal part of it in other machines.

F. C. TREADWELL, JR.

Subscribed and sworn to before me, this 21st May, 1863.

R. E. STILWELL, *Examiner, &c.*

Complainants' counsel puts in evidence a certified copy from the United States Patent office of the letters patent of the United States, issued to John Stainthorp, for improvements in machines for making candles, dated the 6th day of March, 1865. And it is hereby consented by the defendant's counsel that the same may be received and used in evidence in this suit, with the same effect as if the original thereof were duly produced and proved in said cause.

The complainants' counsel also puts in evidence a certified copy from said Patent Office of an assignment in writing of an un-
339 divided interest in said patent, by said Stainthorp to Stephen Seguine, one of the complainants in this suit, dated May 29th, 1857. Also a certified copy from said Patent Office, of an assignment in writing of another undivided interest in said patent by said Stainthorp to John W. Hunter, dated 29th May, 1858. Also a certified copy from said Patent Office, of an assignment in writing of another undivided interest in said patent, by said Stainthorp to said Hunter, dated July 27th, 1857. And also a certified copy from said Patent Office, of an assignment in writing, by said Hunter to said Seguine, of all his right, title, and interest in said patent and invention, dated the 12th day of September, 1860.

And the defendant's counsel hereby consents that each of the said certified copies of assignments may be read and used in evidence in

this suit with the same effect as if the originals thereof had been duly put in evidence and proved in said cause. And also that each of said assignments was duly recorded in the Patent Office of the United States.

Said certified copy patent is marked "Ex. C, Stainthorp;" and said certified copies assignments are marked "Exhibit D, Stainthorp."

340 EXHIBIT C.—STAINTHORP.

R. E. S., *Examiner.*

The United States Patent Office.

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy of the records of this office of letters patent issued to John Stainthorp, March 6, 1855.

In testimony whereof, I, S. T. Shugert, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this 22d day of March, in the year of our Lord one thousand eight hundred and fifty-nine, and of the independence of the United States the eighty-third.

[L. S.] S. T. SHUGERT.

The United States of America.

No. 12,492.

To all to whom these letters patent shall come:

Whereas John Stainthorp, of Buffalo, New York, has alleged that he has invented a new and useful improvement in machines for making candles, which he states has not been known or used before his application; has made oath that he is a citizen of the United United States; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an ex-
341 clusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are therefore to grant, according to law, to the said John Stainthorp, his heirs, administrators, or assigns, for the term of fourteen years, from the sixth day of March, one thousand eight hundred and fifty-five, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Stainthorp, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this sixth day of March, in the year of our Lord one thousand eight hundred and fifty-five, and of the independence of the United States of America the seventy-ninth.

ROBERT McCLELLAND,
[L. S.] *Secretary of the Interior.*

Countersigned and sealed with the seal of the Patent Office,
C. MASON,
Commissioner of Patents.

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that I, John Stainthorp, of Buffalo, in the county of Erie, and State of New York, have invented a new and useful machine for moulding candles, which I term a clasp and piston candle-moulding machine; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which figure 1 is a perspective view; figure 2 a sectional elevation; figure 3 a section showing the
342 application of the centre mould; and figure 4 a face view of clasps, as applied to the tip-bar.

Lest similar letters refer to like parts in all the figures, then A will represent the mould-stand, which may be made of any desired size or form; B the slide to which the pistons are secured; C C, &c., the moulds, which are fitted at their tips for the pistons or centre moulds, and secured firmly in the stand A; D D, &c., the pistons, which are provided with their tip-moulds, (E E, &c.,) and all nicely fitted to the main moulds, (C C, &c.;) these pistons have an aperture for the wick to pass through in this tip, (E E,) and are made hollow; however, it is not absolutely necesary that they should be hollow, as the wick might be pased out at the side in a flute in them, or a small aperture might be made in the side of the main aperture in the tip of the main mould, to allow the wick to pass through without injury when the candles are ejected by the pistons, this small aperture being covered by the tip-moulds (E E) when the pistons are down; E E, &c., the tip moulds on the pistons, (D D, &c.;) F F, &c., the arms or levers, firmly fixed to the pistons, and connected together by the bar or rod X, by pivots, which allow the bar X to work laterally; the object of this arrangement is to loosen all the candles in a row at one movement of X; this is accomplished by all the pistons being set in the slide (B), with screws, or threads, or other devices, which, by turning this, will raise them slightly, and thereby loosen the candles in the moulds; however, this is not found necessary in all cases.

G G (figure 1) shows the balls of wicking, which should be boxed or put in tin cannisters, that they may be kept dry and clean; H H,

the ways or guards to steady and keep in place the slide (B) in its movements; I I, the pulleys over which the rope or cord runs by which the slide, (B, with pistons D D, &c.,) are raised in ejecting the candles; K, the treadle to which the foot is applied in working the pistons; instead of using the treadle, cord, and pulley to raise the pistons and eject the candles, I sometimes use a foot or hand-lever, in which case the power is applied more direct; L, the block in which the cord is secured; M M, the racks into which the candles are ejected when thrown from the moulds by the piston; N N, (figure 2,) the hinges securing the racks to the stand (A A);
343 O O, the hinges securing the tip bars to the racks; P P, the tip bars provided with cavities; R R, for the tips of the candle to rest in, and from these cavities their ganes passing out the rounded or outer edge of the bars, so that in swinging or turning these bars under the candles the wicks are each passed into its ganes and the cavities brought immediately under the candles; to accomplish this, suppose the candles ready for ejection, the tip bars are thrown out, as shown by the dotted lines, Y Y, (figure 2,) when the candles are ejected by the pistons, as before described, and before the pistons are lowered, the racks are inclined to the right and left sufficient to allow the tip bars to swing under, as shown in (figure 1), when the racks are raised perpendicular, the candles falling into the cavities in the tip bars when the pistons are dropped, thereby straining the wicks; Q Q, the holes in the dots of the racks into which the candles are ejected; S S, &c., represent the candles in the racks; T T T, the wick extending from the balls to the candles; U U U, as strained; V, the piston of the racks when the candles are dropped into a box or canvas; dotted lines, W W, &c., (figure 2,) is to show the position of the slide B, with pistons when the slide is raised, as in ejecting the candles; Z Z, a part of the frame-work on which the racks are secured.

Figure 4 is a face view of the wick clasps, which are secured to the underside of the tip bar, and are connected together by the rod C, and work on points, the same as the bar and arms F F F on the pistons; but those are used for the purpose of securing and retaining the upper end of the wicks in case it is desirable to take the candles out of the racks before filling the moulds with melted tallow or other material. This clasping the wicks is accomplished by passing the bar c to d, when the wicks will be clasped between E E E and f f f at E E E.

Having thus fully described my invention, what I claim as new, and desire to secure by letters patent is—

First. The employment of the pistons D D, formed at their upper ends into moulds for the tips of the candles, in combination with stationary candle moulds, to throw out the candles in a vertical
344 direction, substantially as herein set forth.

I do not claim the use of clasps separately considered, but I claim—

Secondly. The combination of the rack, tip bar, and clasps con-

structed and arranged substantially as described, and for the purpose specified.

JOHN STAINTHORP.

Witnesses:
C. F. T. PARSONS,
S. P. KITTLE.

Buffalo, November 15, 1854.

345 Circuit court of the United States, for the northern district of New York.

JOHN STAINTHORP, *et al.*, *vs.* WILLIS HUMISTON. } In equity.

Testimony taken on part of complainants for final hearing under the 67th rule of the Supreme Court of the United States.

FRIDAY, *January* 8, 1864.

Present: George Gifford, esq., counsel for the complainants.
Adjourned to 12 m., the 9th inst.

SATURDAY, *January* 9, 1864.

Present: George Gifford, esq., counsel for complainants.
Adjourned to the 11th inst., at 12 m.

MONDAY, *January* 11, 1864.

Present: George Gifford, esq., counsel for complainants; Marcus P. Norton, esq., counsel for defendant.

Alexander Stewart, called and sworn on part of complainant, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. Alexander Stewart, 60 years of age, reside in Brooklyn, and my present occupation is foreman of a candle and oil factory.

Q. 2. Are you acquainted with the parties to this suit, Stainthorp, Seguine, and Humiston; and if you are, how long have you known each of them?

A. Mr. Stainthorp I never saw but once or twice, and never spoke half a dozen words to him; Mr. Seguine I am acquainted with,
346 and have been for five years, and I do not know Mr. Humiston.

Q. 3. Have you heretofore been engaged in the manufacture of candles by machinery; if so, when, where, and for whom?

A. I have; the first place I manufactured candles by machinery was at Seguine Point, or Prince's Bay, Staten Island; also, at Brooklyn, for the New York Oil and Candle Company; I first went down to Seguine's Point in 1857, and continued there till the first day of September, 1857; I then left and went back again in March, 1858, and remained there till the 1st day of July, 1861; I then left and went to Brooklyn to the Phœnix Company, then so called, and remained there as long as they carried on business; the name of the establishment has been several times changed since I first went there; it is now called the New York Oil and Candle Company, and this company carries on business in the same place where I first went; I went to work for the Phœnix company in July, 1861.

Q. 4. What branches of the candle-making business did you attend

to at the establishment on Seguine's Point, and what was that establishment called?

A. It was called the Staten Island Oil and Candle Company; I had charge of the candle-room and the press-room?

Q. 5. What portion of the candle-making business was done in the candle-room at that establishment, and what portion of it in the press-room?

A. All the stock that came through the still was brought up into the press-room and pressed; all that was pressed was taken up into the candle-room and manufactured into candles, except a very small portion which may have been sold.

Q. 6. Look at the model now shown you, and marked by the examiner "Exhibit E, Stainthorp," and state what it represents.

Objected to by defendant's counsel, and to the introduction of this model, and to its reception in evidence—

1st. Because it is no part of the organized machine patented by the complainant Stainthorp, March 6, 1855, in suit.

347 2d. Because this model contains no racks, tip bars, or clasps described in plaintiffs' patent in suit, and covered by the second and last claim of that patent.

3d. Because it contains no device for the movement of the piston platform like that described and set forth in plaintiffs' patent in suit.

4th. Because it contains four rows of candle moulds, whereas the mould on which the patent in suit was granted contains, and can only contain, by the terms of the patent in suit, two rows of candle moulds with pistons, each tip bar and wick clasp in combination therewith, as specified in that patent.

5th. Because the vertical stationary moulds, and pistons with candle-tip moulds in the upper ends thereof, is not the invention of the plaintiff Stainthorp, as alleged in the patent in suit.

A. That represents a machine to make candles.

Q. 7. How does it correspond with, or differ from, the machines used to make candles at the Staten Island Oil and Candle Company, used by that company while you were there, as stated, and also with the machines used to make candles at the establishment in Brooklyn, as you have stated?

A. I don't see any difference at all; the principle is the same, except the sides, which were closed instead of open; I mean the sides next to the stationary candle moulds; also the device for holding up the racks were not movable, as shown on this model, but were stationary.

Q. 8. Have you ever used machines like that model (E. E. Stainthorp,) with the exceptions you have stated in your last answer, in the manufacture of candles; and if you have, where did you use them, and how long did you use them?

A. I have used such machines; the first time I used those machines was on Staten Island, at the Staten Island Oil and Candle Company; I first used such machines there in 1857; except the frames

348 were made of wood, instead of iron, and were a larger machine; we used those large machines till, I think, 1859, and

we changed them for machines like this one, (Exbibit E,) only they they were larger; I used them from that time until I left Staten Island, and have been using them about a year now in Brooklyn; it may be more, and it may be less; I think a little more than a year.

Q. 9. Look at defendant's exhibit BB, and state what it is?

A. It is a candle stand, such as we used thirty or forty years ago.

Q. 10. Describe the process of making candles, and removing them from the moulds, in a machene like the defendant's exhibit BB.

The defendant's counsel objects to the question, on the ground that it is not proper or legitimate rebutting evidence:

1st. Because defendant only introduced this exhibit, and examined his witnesses in relation thereto, for the purpose of showing a series of vertical stationary candle moulds and candle-tip moulds in combination therewith.

2d. Because he did not examine any of his witnesses in relation to the process of making candles in that exhibit, or in machines like it.

A. The way I used to make candles in a machine like this was to set the mould on one end, and have a wicking rod, and I drew the wick into the mould; after the wicks were all in, we put the wires in and centered the wicks, and drew the wick tight, and put a peg in the bottom of the mould to hold the wick tight; with the rods I centered the wicks with my fingers; the machine was then turned up and the tallow poured in, and the moulds filled; the candles were then left to cool; we then drew the wires out and scraped the tallow off the top of the machines, and when cool enough we popped the candles, by pressing them down with the thumb on top, and sometimes they were popped by starting the machine on the floor, and loosening the candles; turn the machine bottom side up and they
249 sometimes would fall out without popping; but I do not know whether tallow candles would fall out without popping or not; the candles were then drawn out of the moulds; sometimes it would be necessary to use an awl to draw them out, and sometimes they were drawn out by hand.

Q. 11. What was the quality of the work done by the use of the machines like exhibit E, you have referred to at Staten Island, and also by the use of those you have referred to in Brooklyn, and how many such machines did you use at each place?

A. At Staten Island we had 21 such machines; at Brooklyn we had about ten to work; the quality of the work would depend a good deal upon the quality of the stock we used.

Q. 12. How long were the machines like exhibit E used at Staten Island?

A. I think we introduced them about 1859; I don't speak positive as to the time; it might have been in the fall of 1858.

Q. 13. Did they continue to be used there in the manufacture of candles until you left the establishment in July, 1861?

A. Yes, sir; they were used there longer than that, up to July, 1862.

Q. 14. What was the quality of the material generally used at that establishment in the manufacture of candles—good or bad?

A. They always had a good quality of material; there might have been some time when it was not so good as others.

Q. 15. When the quality of the material was good what was the quality of the candles made on those machines?

A. They were always calculated to be a good quality of candles.

Q. 16. What was done with the candles made in these machines on Staten Island?

A. We always boxed them up, and sent them to New York; I don't know what they done with them down there; they used to send up different brands for different houses, and I supposed they went to different houses.

Q. 17. Did you observe any injury to the tips of the candles, or any marring of the candles arising from their manufacture in
350 these machines at Staten Island?

A. No sir; I did not.

Q. 18. Have you observed any injury to the tips of the candles or to the candles themselves, arising from their manufacture in the machines which you have in use in Brooklyn?

A. No, sir.

Q. 19. What is done with the candles manufactured in the machines which you have in use in Brooklyn?

A. They are put in boxes and sold.

Q. 20. State whether or not the candles which were manufactured by the use of these machines, both in Brooklyn and at Staten Island, as you have stated, were good and merchantable candles?

A. Yes, sir; they were.

Q. 21. How many pounds of candles were made per day at Staten Island, and how many machines were used in making them?

A. We call ten hours a day, and made generally from three to four thousand pounds of candles per day on seventeen machines; I say about that; we have made more than that, and less than that; we generally put three men on to these seventeen machines; three men to work the machines, and one young man to trim them up and put them on the shelf.

Q. 22. How many candles per day of ten hours, could one man make on a hand-stand machine like defendant's exhibit B B; I mean how much in weight?

Objected to as wholly immaterial for the purposes of this suit—

1st. Because this suit is brought for an alleged infringement of the first claim of complainants' patent in suit, and not upon the quantity of candles which may be made in one day.

A. That would depend upon the weather and the number of machines used; when I made candles with the hand-stand machine, we used to employ boys to make them, and we made from one
351 hundred and fifty to two hundred pounds of candles per day on twenty-four stands, and one stout boy to the twenty-four stands; we used to heat the stands and run them on a platform with rollers on and run them into a hot closet, and let them be there sufficient time to warm the moulds before we run them; when they were warm enough we would run them out and put them on a bench and run them full.

Answer objected to as not responsive to the question.

Q. 23. State whether or not these hand-stand machines have generally gone out of use since the introduction of the Stainthorp candle machines into use?

Objected to as immaterial for any of the purposes of this suit.

A. I can't state positively as to that; I only know of my own knowledge when I have worked myself; that's all I know about that.

Q. 24. For what purpose in machines like models (exhibit E, Stainthorp) is each rack in two parts, and attached by hinges?

A. It is open to let the candle go up loose, and is closed to keep it up.

Q. 25. What prevents the candles from going up when the rack is closed?

A. The body of the candle is too large to let it go up without scraping.

Q. 26. What would scrape the candle when being thrown up into the rack if the rack were not open?

A. The tip bar would prevent it from going up altogether.

Q. 27. How does opening the rack prevent the tip bar from scraping the candle?

A. By opening the racks and loosening it up, and throwing the tip bar back; can't loose the tip bar, for that is stationary.

Q. 28. State whether or not the tip bar is thrown back out of the way of the candle when the rack is loosened?

A. It is; it opens itself; there are springs inside which throw it back.

352 Q. 29. In the operations of machines like "exhibit E, Stainthorp," what sustains the candles vertically, after they are pushed up into the rack?

A. By turning the rod between the rack it throws the tip bar in, and takes hold the tips of the candles; it closes the rack up so that it holds the tips of the candles, and holds the candle up; the tip of the candle don't rest on the tip bar, but it is the shoulders of the candle that rests on the tip bar; the top of the tip of the candles comes below the tip bar.

Q. 30. What would be the effect after the candles were pushed up into the racks if the tip moulds were drawn down without the tip bar being put under the shoulder of the candles as you have stated?

A. They would drop down again I should think.

Q. 31. State whether or not the candles cut loosely on the tip bars in these racks so that they could be easily drawn from the racks if the wicks were cut?

A. They could be lifted out; they rest loosely on the tip bars, and could be taken out without opening the rack; I have done this often with one or two, or a half a dozen candles, but not with the whole bar; we do it every day.

Q. 32. State whether the candles rest in the tip bars and in the racks so loosely that they could be easily drawn out, or thrown out from the tops of the racks without loosening or opening the racks if the wicks were cut?

A. Yes, sir; as the rack lays on the machine you could lift them out very easily, and if you take the racks off the machine and turn it sideways, and pitch it on the table, some would come out and some would not; we then open the racks and let them out; we always open the rack; I don't see any other way to do it.

Q. 33. Do you mean in your last answer that the candles rest so loosely in the racks on the tip bars that if the wicks were cut you could easily draw the candles from the top of the racks by hand, or that you could take the racks with the candles in them and throw the candles out by a sudden throw or jerk?

A. I thought I answered that once; I mean all I said in my last answer.

Q. 34. Is it necessary to loosen the racks in order to re-
353 move the candles from them in machines like "exhibit E, Stainthorp?"

A. I think it is.

Q. 35. Might not the candles be drawn from the top of the racks by hand, in such machines, without loosening them, turning the bar between the clamps therein, after the wicks were cut?

A. They might.

Q. 36. State whether or not the wicks were centered in the machines used on Staten Island and in Brooklyn, before spoken of by you?

A. They were when the candles was run up into the racks, and they closed the bar.

Cross-examined by Marcus P. Norton, esq., defendant's counsel.

Cross-q. 37. How near do you reside to the plaintiff Seguine?

A. I reside in Brooklyn; Mr. Seguine resides in Staten Island, I believe; I don't know the distance.

Cross-q. 38. About how near is your place of business to that of the plaintiff?

A. From two or three miles I should think.

Cross-q. 39. Has either of the plaintiffs, and if so, which of them, visited the works where you are employed, and if so, how often?

A. I think Mr. Seguine has been there two or three times; it may have been more.

Cross-q. 40. When?

A. When he first came there; I am not certain whether it was in consequence of my calling there to introduce those machines or not; I think it was; it must have been in 1862; I don't recollect the date precisely.

Cross-q. 41. Who first saw you about being a witness on this occasion?

A. Mr. Seguine.

Cross-q. When?

A. Some time in December last.

Cross-q. 43. Did he tell you on that occasion what he wanted to prove by you on this examination?

354 A. He did not tell me anything particular; he said he had a suit against Mr. Humiston and he wanted me as a witness here.

Cross-q. 44. Then you did not know until to-day, did you, upon what points you were to be examined by plaintiffs' counsel on this examination?

A. Not particularly.

Cross-q. 45. Have you ever used any candle machines for the manufacture of candles, which were made according to plaintiffs' patent in suit?

Objected to by complainants' counsel, as it does not appear that this witness has ever seen or read, or knows the contents of the patent referred to.

A. I have used none but those I am using now, and those I have used on Staten Island; I don't know what is meant by the plaintiffs' patent in suit; I know what the plaintiffs' patent is, for I am using it all the time.

Cross-q. 46. Question repeated.

A. I am using the plaintiffs' machines now, and I have never used any other similar to those machines.

Cross-q. 47. Are these machines which you now have in use, and referred to in your last answer, constructed and operated in all its parts like and according to the plaintiffs' patent in suit?

Objected to by complainants' counsel, because it does not appear that the witness knew what is meant by the term "plaintiffs' patent in suit," nor does it appear that the witness knows what patent, if any, this suit is brought on; nor does it appear that this witness has ever read, or examined, or knows the contents of, letters patent of the United States granted to John Stainthorp, dated March 6, 1855, and on which this suit is brought.

A. I suppose this is the plaintiffs' patent in suit, (pointing to "Exhibit E, Stainthorp,")

Witness points to "Exhibit E, Stainthorp" and says, in answer to a question from defendant's counsel: This is plaintiffs' patent in suit.

Cross-q. 48. Look at complainants' "Exhibit A, Stainthorp" and state whether or not you have ever used a candle machine for
355 the manufacture of candles containing a rack, tip-bar, and wick-clasp, hinged to the candle machine frame, like that on this exhibit?

A. I have not.

Cross-q. 49. The same question repeated in reference to defendant's exhibit K.

A. I have not.

Cross-q. 50. Have you ever seen candle machines constructed and operated as an organized machine, like complainants' "Exhibit A, Stainthorp," or defendant's exhibit K; and if so, when and where?

A. I don't recollect of seeing one before anywhere.

Cross-q. 51. Do you know whether or not the firm or firms of which you have been and are foreman have ever obtained license of the plaintiffs, or either of them, to use, in the manufacture of candles, the Stainthorp patent in suit?

A. I don't know of my own knowledge that they ever did.

Cross-q. 52. Have you any information as to whether such license has been obtained or not?

A. No, sir; I have not.

Cross-q. 53. Do you know whether the complainant Seguine has been or is a stockholder in either of the companies which you have named on this examination?

A. Not of my own knowledge.

Cross-q. 54. Do you know anything in relation to that matter?

A. I don't know nothing, only hearsay. Mr. Seguine used to be down to the factory, when I first went there, occasionally—very seldom. It was spoken of that Mr. Seguine, Mr. Bennett, and Mr. Jessup owned the factory on Staten Island; I mean Mr. Seguine, one of the complainants.

Cross-q. 55. In defendant's "Exhibit E, Stainthorp," will you please explain how and in what manner the tip-bar, so called by you, comes in contact with the tip of the candle, while the tip of the candle remains in the candle-tip mould, in the upper end of the piston?

Objected to, because it does not appear that the witness has stated whether the tip bar comes in contact with the tip of the candle while it remains in the tip mould.

A. The tip bar cannot touch the tip of the candle until it
356 leaves the tip of the piston; the tip of the mould is fastened on the piston, and works up and down in the mould.

Cross-q. 56. The diameter of the candle, when it is first moulded, is of the same diameter of the candle-tip mould and piston, and when it shrinks by cooling it is somewhat less in diameter, is it not?

A. It is, and shrinks a little; some stock shrinks more than others.

Cross-q. 57. Will you please explain what holds the candles, and the manner in which it is held, while the candle-tip mould recedes therefrom by the downward movement of the piston and piston platform?

A. The tip bar holds it up in its place; when the piston is worked up in the mould the tip mould comes up above the tip bar; we then close the sash, and bring the tip bars together; we then bring down the pistons with the tip mould—that loosens the candle standing in the rack, with the shoulders of the candle resting on the tip bar; that leaves the tip all clear from the rack.

Cross-q. 58. When the candle is forced from the mould by the tip mould, on the piston, what you call the shoulder of the candle rests firmly upon the upper end of that mould, does it not?

Objected to, as leading and assuming.

A. It don't rest on the mould; it rests on the tip.

Cross-q. 59. Will you now explain how, and by what process, and at what precise point during the operation of the machine, the tip-bar, so called by you, gets under the shoulder of the candle, so called by you, while the candle tip still remains in the tip moulds?

A. By the working up of the pistons in the mould. I don't see any other way; there can't be any other way.

Cross-q. 60. Now, do you mean to be understood, that after the candles are forced into these racks by the pistons, that no part of the candle is clamped and held by the closing of those racks while the

piston tip mould recedes from the tips of the candles, and returns to the lower end of the candle mould below?

A. Yes, sir; I stated that two hours ago, I think. The
357 candles lay loose in the rack; sufficiently loose, when closed, that if you turn the racks over the candles will drop out.

Cross-q. 61. The racks on the machines used at the works named by you are portable, are they not?

A. What do you mean by portable?

(Counsel replies: Racks which may be removed from and replaced upon the machine at the pleasure of the operator, and for the purpose of forcing them off the candles in them while on the machine.)

Witness answers: They are.

Cross-q. 62. How many rows of candle moulds are there in each of the machines referred to by you in your direct examination?

A. We call it two; I don't know what you call it.

Cross-q. 63. How many moulds does it take to constitute a row in each of these machines?

A. Forty-eight we have on each side.

Cross-q. 64. Are they all arranged in one line; if not, in how many?

A. No; there are two lines on each side.

Cross-q. 65. Then it takes two lines to make one, does it?

A. No, sir; two lines are two lines.

Cross-q. 66. How many parallel lines will make one row?

A. I don't know; I can't answer that question.

Cross-q. 67. Look at defendant's Exhibit K, and state how many rows of candle moulds there is in that exhibit?

Objected to, as the question does not specify whether the witness is to look lengthways or crossways of the exhibit.

A. As I stated first off, we generally called one side of these machines a row; there are two rows in it.

Direct resumed:

Q. 68. Have you any doubt that the machines which were used at the Staten Island Oil and Candle Company, and in Brooklyn, as you have stated in this examination, correspond substantially, in construction and operation, with "Exhibit E, Stainthorp," including the changes you have referred to in your direct examination?

358 Objected to, as it is no part of legitimate re-direct examination; and further, the witness having testified that this model represents the machine, and by the comparisons referred to on his direct examination. The defendant's counsel has no doubt but such is the fact.

A. No, sir; I have no doubt of it at all.

A. STEWART.

Subscribed and sworn to before me, this 11th January, 1864.

R. E. STILWELL,
Examiner, &c.

1387

Defendant's counsel, at five minutes past 6 p. m., after having come from Troy to-day, a distance of one hundred and fifty miles, and without having had anything to eat since leaving Troy this morning at 5.55, and after having completed the examination of complainants' witness, here makes a motion for the postponement of this examination until to-morrow morning, at nine o'clock, or at any earlier hour which complainants' counsel may reasonably suggest. And defendant's counsel also here pledges to exercise every reasonable effort to facilitate the examination and cross-examination of plaintiffs' witnesses during the time stipulated for that purpose.

Complainants' counsel replies, that he is willing and desirous of affording to the defendant and his counsel every courtesy and privilege which they can reasonably ask; but that he has now only five days left in which to examine a large number of witnesses, some of whom may occupy considerable time on the cross-examination, and that he thinks it necessary that he should go on with the examination this evening, and every other day and evening which he has left in which to complete his testimony. That he is willing to adjourn this examination for an hour or so, to enable the examiner, counsel, parties and witnesses, an opportunity to get something to eat, if they desire it, but that he insists upon going on with the examination.

Defendant's counsel replies, and offers to stipulate an extension of time for thirty days or more, for the complainants to get into
359 their case all their testimony which is of a legitimate rebutting character; and also states that he is at such a distance from his hotel as to require all or nearly all of the offered time to travel to and fro.

Complainants' counsel replies, that the parties to this suit having mutually agreed, insisting that the same shall be heard on the third Tuesday of January, he cannot now accept the offer to extend the time for him to take testimony; that there are several very respectable dining saloons within a few rods of here, where the defendant and his counsel can refresh themselves, if they desire it, and in some of which places they have heretofore dined.

Adjourned to 7 p. m.

Defendant's counsel says he shall not be present.

JANUARY 11, 7 p. m.

Examination continued, pursuant to adjournment.

Defendant's counsel not present.

James S. Reid, called and sworn on the part of the complainant, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. James S. Reid; 31 years of age; reside in New York, and am a clerk.

Q. 2. Are you acquainted with Stainthorp & Co., the complainants, and with Mr. Humiston, the defendant, or with either, and which of them?

A. I am acquainted with John Stainthorp and Stephen Seguine, whom, I believe, form the firm of Stainthorp & Co.; I am not acquainted with Mr. Humiston.

Q. 3. Have you heretofore been engaged in the manufacture of candles by machinery; if so, where, and from what time to what time?

360 A. I have; my first engagement was with the Staten Island Oil and Candle Company, on Princess bay, Staten Island, from the year 1851 to July, 1859; the name of the company was changed about 1857 to the Staten Island Oil and Candle Company; before that the name was the Staten Island Oil Company.

Q. 4. State what branch or branches of business you attended to for the Staten Island Oil and Candle Company.

A. First as clerk; afterwards as superintendent of the whole.

Q. 5. About what portions of the time were you superintendent of the establishment?

A. About two years, or less; I had full charge before that, but was not called superintendent.

Q. 6. What opportunities had you for knowing what machinery was used in that establishment in the manufacture of candles, and how the same operated?

A. I saw it all fitted up from first to last, and wicked up the first candle machine that was in operation; I was in the factory every day that candles were made, and helped to make and box them, and saw all that was going on through the factory.

Q. 7. Look at the model now shown you, marked "Exhibit E, Stainthorp," and state what it represents.

A. It is a representation of the machines we had in use in the Staten Island oil and candle factory, except that the machines there had side pieces outside, likewise inside from end to end, to hold water near the stationary moulds; likewise the parts to hold the racks above the stationary moulds were stationary, and not movable, as shown on that exhibit; otherwise, the machine was substantially the same.

Q. 8. How many such machines did the Staten Island Oil and Candle Company have in use, and during what length of time did they use them?

A. They had, I think, twenty-two machines from 1857 until the time I left in July, 1859; those machines were composed of sixes, fives, fours, twelves, and railroad candles—that is, they are adapted to make these different styles or sizes of candles.

Q. 9. Explain what you mean by the terms "sixes, fives,

361 fours, twelves, and railroad candles," as used in your last answer.

A. Sixes, fives, fours, and twelves were so many to a pound, as the number designated to make a pound; railroad candles were made either three, five, or six to a pound; our number was six to a pound, requiring a different sized mould from the others.

Q. 10. How did these machines do their work in the manufacture of candles?

A. They done it well, better than any other machine that we ever had—taking up less than half the space, and requiring about one-third the labor to work the same quantity of machines.

Q. 11. Did you ever make candles in these machines, or any of them, yourself?

A. I did, on the first machine that was brought to us, as a sample machine; it was brought by John Stainthorp to our factory, about the middle of November, 1856.

Q. 12. State how that machine differed, if at all, in construction and operation from the other machines represented by "Exhibit E, Stainthorp."

A. The machine had a wooden frame instead of an iron frame, and had a zinc lining around the moulds to hold water; the tip-bars were wood, and had no rubber, as exhibit E has; the racks were closed with wedges instead of turning an iron rod, as shown on this exhibit E; these were the only differences in the construction of this first machine.

Q. 13. State whether the operation of this first machine was substantially the same as that of "Exhibit E, Stainthorp."

A. It was just the same.

Q. 14. About what time did you use this first machine in the manufacture of candles, as stated in your answer to the 11th interrogatory?

A. About the middle of November, 1856.

Q. 15. Did you ever try this machine to see how many candles you could make with it in one day?

A. I worked the first machine myself, and made fourteen hundred pounds of candles in ten hours, six to a pound.

Q. 16. What was the quality of the work done on that machine?

362 A. The candles were A No. 1.

Q. 17. What was the character of the work done on that machine, as respects the formation of the candle and tip?

A. The candles were all perfect, and the tips likewise; no broken or marred ones when taken out of the machine.

Q. 18. What was the character of the work done on the other machines used at the Staten Island Oil and Candle Company's establishment, and which you say are represented by "Exhibit E, Stainthorp?"

A. They were all A No. 1, good merchantable candles; they were all perfect candles.

Q. 19. How did the candles which were made in the Stainthorp machines compare in the quality of workmanship and finish of candle of the same quality of stock with those which were made in the machines used previously to obtaining Stainthorp machines in that establishment?

A. Those made in the Stainthorp machines were a better quality, smoother, and not so blurred, marred, or mottled as those made in the other machine.

Q. 20. State if you know where, or of whom the machines at the Staten Island oil and candle factory, represented by "Exhibit E, Stainthorp," were procured.

A. The first from John Stainthorp, and the rest from Stainthorp & Co.

Q. 21. Was the wooden tip bar used on any of these machines except the first one that you have mentioned?

A. Yes; on the first sixteen or seventeen that we got we had wooden tip bars.

Q. 22. How did the seventeen machines referred to in your last answer work in the manufacture of candles; well or otherwise?

A. They worked well at first; some of the bars being made of different wood, were smooth, and let the candles drop down; then we introduced the rubber tip bar; in the others they held them up, and, I think, worked two or more there for about eighteen months with the wooden tip bar.

Q. 23. For what purpose, in machines like model Exhibit E, is the rack in two parts and attached by hinges?

363 A. It is for the purpose of removing the tip-bar out of the way, so that the candles can pass up from the stationary moulds.

Q. 24. In the operation of the machine like "Exhibit E, Stainthorp," what sustains the candles vertically after they are pushed up into the racks, and prevents them from dropping down when the piston and tip are removed?

A. The tip bar.

Q. 25. State how this is done.

A. It is by closing the rack; we pushed the candle up through the stationary mould by the aid of pistons and tips into the rack; after they are up, so that the pistons and tips touch the tip-bar, we closed the rack, dropped the pistons down at same time, leaving the candle in the rack with the shoulder of the candle resting on the tip bar and centring the wick for the next candle.

Q. 26. What would be the effect after the candles are pushed up into the rack, if the tip moulds were drawn down without the tip bar being put under the candles by closing the rack as you have stated?

A. The candles would drop back into the moulds.

Q. 27. State whether or not the candles are clasped or clamped in these racks when ejected into them from the moulds and the racks closed up.

A. The candles are held perfectly loose in the racks, so that when you cut the wick of the next candle you can pick them out without unloosing the rack or marring the candles in any manner.

Q. 28. Did you find it necessary, in order to remove the candles from the racks, to unloose or unclose them after you had cut the wicks before you could remove the candles therefrom in the machines referred to by you? State what your practice was in that respect.

A. I never had any trouble in getting the candles out of the racks without unloosing the racks; when we took the rack from the machine with the candles in it, we carried it to the table, turned it over on the side, let the butts of the candles rest on the table, jerked the rack from them, and leaving them all lying there; it would make no difference about enclosing the rack; the racks being hinged together, the holes would not be any larger where the racks were enclosed.

364 Q. 29. About how many pounds of candles were usually made per day, of ten hours, on these machines?

A. An average of 5,000 pounds per day.

Q. 30. How many hands did it require to work these machines?

A. About four; some days we had five, some days six, and some days three, but it would average four.

Q. 31. What was done with candles manufactured by the machine at the Staten Island Oil and Candle Company's works?

A. They were boxed up and sent to agents in New York to sell.

Q. 32. State whether or not the wicks in these candles were centred, and how?

A. They were all centred by the candles on the racks; every candle coming up centred the wick for the next candle; they were all centred perfectly by the machine.

Q. 33. State whether or not the candle machines used at the Staten Island Oil and Candle Company's establishment had in them pistons with tip moulds formed at their upper ends like the pistons and tip moulds in "Exhibit E, Stainthorp."

A. They had the same kind, only larger; there was no joint in the pistons or tip-moulds.

JAMES S. REID.

Adjourned to 10 a.m. the 12th instant.

JANUARY 12, 1864.

Present counsel on both sides.

Cross-examined by Mr. Norton, counsel for defendant:

Cross-q. 34. Were you present yesterday during the examination of Alexander Stewart, complainants' witness, and if so, did you hear that examination?

A. I was here part of the time and heard part of the examination.

Cross-q. 35. Are you or have you been engaged in the manufacturing, and for the companies referred to by that witness in his direct examination?

365 Objected to, unless the attention of the witness is called to the several companies referred to by Mr. Stewart in his examination.

A. I have only been employed by the Staten Island Oil and Candle Company.

Cross-q. 36. Then the superintendency referred to in your direct examination refers only to the Staten Island Company, does it not?

A. That is all, sir.

Cross-q. 37. How many candles have you personally made in those works during the time of your superintendency?

A. I can't answer the question; for sometimes I worked in the candle room, and sometimes in other parts of the factory.

Cross-q. 38. How many candles have you personally seen boxed and sent out from those works during your superintendency there?

A. Well, I should say about six millions of pounds.

Cross-q. 39. How long were you superintendent there?

A. About four years.

Cross-q. 40. How many candles were boxed and sold at those works during that time, of which you did not have the general superintendence?

Objected to, as the witness has already stated in his direct examination that the candles were sent from that establishment to agents.

A. I should think about three million of pounds.

Cross-q. 41. Were every candle of the six million of pounds of candles perfect?

A. They were, as far as I know.

Qross-q. 42. How far do you know?

A. From being in the factory, and seeing them boxed.

Cross-q. 43. Now, are you willing to swear positively that every candle of the six millions of pounds of candles which you say you saw boxed at those works were perfect candles?

Objected to, because the witness has only said that "he should say about six millions of pounds," but he does not undertake to swear positively that there were exactly six million of pounds.

366 A. I would not swear to that.

Cross-q. 44. Will you swear positively that their candle machine, referred to on your examination, did not, at those works, and during the time of your superintendency there, make imperfect candles, and candles with broken tips, more or less?

A. If the machines were in good order they would make good and perfect candles; they did not make imperfect candles, nor broken tips, unless through the carelessness of those working the machines.

Cross-q. 45. It required then, did it not, a considerable skill and exactness to work one of those machines?

A. It did.

Cross-q. 46. Will you please look at complainants' "Exhibit A, Stainthorp," and state whether you have ever made, or seen made, candles in a candle machine, having a rack hinged to the candle frame, and candle-tip bar hinged to the rack, and with clasps attached to the candle-tip bar like those on that exhibit, in construction and operation?

Objected to.

A. I have not.

Cross-q. 47. Please look at defendant's Exhibit K, with question 46 applied to that exhibit, and please answer the question as thus applied.

Objected to.

A. I never made any candles on a machine like that, nor ever saw any made.

Cross-q. 48. On your direct examination you testify that, in the candle machine referred to in that examination, the candles after being pushed into the rack, so called by you, on that machine, remained perfectly loose, so that they can be taken out from the top by hand after the wicks were out; please explain how the candler got them, and in that condition.

A. They were raised by means of a crank, with a piston and tip for each mould up into the rack; when high enough the rack is closed, and the pistons with the tip allowed to drop back, leaving the candles in the racks, resting on the tip bar.

Cross-q. 49. What forms the tip of the candles?

A. The tip mould attached to the end of the piston.

367 Cross-q. 50. What is the diameter of this tip mould?

A. I can't answer, I never measured.

Cross-q. 51. Is this tip mould larger or smaller in diameter than the lower end of the candle mould when used?

A. The same size.

Cross-q. 52. Is the candle larger, at its lower end, than this tip mould referred to in your last answer?

Objected to, as the question does not state whether the candle is in the mould, in the conditions in which it is formed, when the lower end of the candle is spoken of, or which end of the candle is meant by the lower end.

A. The same size.

Cross-q. 53. What do you mean by the lower end of the candle in candle-making by machinery?

A. The tip end.

Cross-q. 54. In making candles, do they not, in cooling, contract, so that they are somewhat less in diameter than the mould in which they were first formed?

A. They do so slight that you can hardly perceive it.

Cross-q. 55 This then takes place while the candle yet remains in its mould, does it not?

A. It does.

Cross-q. 56. By the contraction of the candle, as you have testified, the lower or tip end would be somewhat less in diameter than the tip mould, in which the tip of the candle was formed, would it not?

A. It would.

Cross-q. 57. Now, in pushing the candle upwards through the mould, and into the rack above, it is done by the tip mould against the tip of the candle, and by force applied to and below the tip mould, is it not?

A. It is.

Cross-q. 58. By what means is the tip of the candle separated from the candle tip mould while the candle tip mould is above the tip bar, so called by you, as you have testified?

A. The rack is closed on the candle, and the rubber holds it, letting the mould tip drop back.

Direct resumed:

368 Q. 59. Do you mean in your last answer to state that the rack is closed on the candle, so as to hold it from falling back into the mould?

Objected to, as he has fully answered the question; and further, that the complainant has no right to attempt to impeach his own witness.

A. I do.

Q. 60. When the candles are forced up into the rack from the

moulds, as you have stated, what portion of the candles, if any, rests upon the tip bar?

A. The shoulders.

Q. 61. If the shoulders of the candle rests upon the tip bar, after the pistons and tip mould are removed, what prevents the candle from following the tip mould and piston back into the stationary moulds?

Objected to, on the ground that the direct examination of this witness having been taken and closed, and that, too, during the absence of the defendant and his counsel, it is improper and contrary to the rule to resume such examination, after the cross-examination of the witness is closed.

Complainants' counsel replies, that the defendant and his counsel might have been present on the direct examination of this witness if they choose; that they were apprised before they left the room, last evening, that the examination of witness would be proceeded with at 7 o'clock, pursuant to adjournment, which was accordingly done.

Defendant's counsel replies, and denies each and every allegation of the statement last above named, and especially so, in view of the laws of health, and the facts stated by defendant on application for adjournment.

A. The tip bar.

Q. 62. Were the defendant and his counsel (the gentleman now present) present here before the examiner last evening, when the adjournment was had until 7 o'clock last evening.

A. They were; they left here about 6.20 last evening.

Q. 63. State whether or not they were apprised, before they left, that the examination of the complainants' witnesses would proceed, pursuant to adjournment, at 7 o'clock last evening, and whether they were requested to be present if they choose?

369 A. They were.

Q. 64. Do you mean to state, on your cross-examination, that the candles in the machines used by the Staten Island Oil and Candle Company, after being forced into the racks, as stated by you, were held in the racks any differently, or more firmly than you stated they were held on your direct examination?

A. They were not held firm at all; they were loose.

Q. 65. State whether or not the candles which you saw made or boxed up at the Staten Island Oil and Candle Company's establishment were good and merchantable candles, as far as you know?

Same objection as to the last above given.

A. They were.

Q. 66. Do you mean to be understood, when you speak of the operation of candle machines used in that establishment, that when the machines were in good working order, they would make perfect candles?

A. They would.

Q. 67. What class of workmen were employed to work the machine in the establishment at Staten Island?

A. They were young men that learned the business down there.

Q. 68. State whether or not the candles, after being forced into

the rack, in machines like those used at the Staten Island Company's works, have a somewhat lateral bearing in the holes on the upper side of the racks.

Same objection as last above given.

A. They have.

Cross resumed:

Cross-q. 69. Do you mean to be understood as having incorrectly or falsely testified to any matter, on your cross-examination in this cause?

Objected to.

A. I do not.

JAMES S. REID.

Subscribed and sworn to before me, this 12th of January, 1864.

R. E. STILWELL,
Examiner, &c.

370 John W. Stiles, called and sworn on the part of the complainants, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. John W. Stiles, about 52 years of age, reside in New York city, and am engaged in railroad supplies.

Q. 2. Are you acquainted with John Stainthorp, Stephen Seguine, and Willis Humiston, the parties to this suit, or either, and which of them; and how long have you been acquainted with them, or either of them?

A. I have known Stephen Seguine probably twenty years, and Mr. Stainthorp about four years; I am not acquainted with Mr. Humiston except as he was pointed out to me in this room.

Q. 3. Have you heretofore been concerned in the manufacture or sale of candles; if so, where, in what capacity, and what was the name of the parties or company where you were so concerned?

A. I was superintendent of the Staten Island Oil and Candle Company for about fifteen months; most of that time was during the year 1860; I went there, I think, in the fall of 1859, and quit there, I think, in the spring of 1861.

Q. 4. What was the business of that company during the years 1859 and 1860, and where did they carry on business?

A. They carried on business at Staten Island in the manufacture of candles, and the oil produced in the process of manufacturing or producing said candles.

Q. 5. State whether or not machinery was used by that company while you were there, to manufacture candles?

A. There was a variety of machinery used there for making candles during all the time I was there.

Q. 6. Look at complainants' "Exhibit E, Stainthorp," and state what it represents.

A. It represents the machine for moulding candles at the Staten Island Oil and Candle Company's factory, except that the machines we used were made to hold water, so that the moulds set in water, for the purpose of heating or cooling the mould; another exception is,

that part of the machines we had in use were partly made of
371 wood, instead of being entirely made of iron, so far as the frame and mould box were concerned, and with the exception that the rest for the rack was stationary in our machines, and here it is movable; no other difference occurs to me at this moment, and, except as to size, and number of moulds.

Q. 7. How many machines like those mentioned in your last answer did the Staten Island Oil and Candle Company have in use during the time you have stated?

A. When I commenced superintending the factory I think we had 22 machines for different sized candles, all of which were made partly of wood, as stated; after which we replaced some 17 or 20 of them with the iron frame machine; these machines differed, the most of them, in the respect that the original machine moulded 26 pounds, and the new ones 16 at one operation; I now refer to the sixes; there were 17 machines that made sixes; I mean six candles to the pound.

Q. 8. State whether or not the iron frame machines and the wooden frame machines referred to in your last answer were substantially the same in construction and operation?

A. They were substantially the same in their practical operation and construction; one other slight variation occurs to me in this, that the top part of the mould box in the iron machine was open to the air.

Q. 9. What were these candle machines used for at the establishment of the Staten Island Oil and Candle Company?

A. For making commercially called adamantine candles, or, perhaps, more technically called stearic acid candles.

Q. 10. What was the quality of the work done on those machines, or, in other words, what was the quality of the candles made in those machines?

A. Good merchantable candles, so far as the operation of the machine was concerned.

Q. 11. What was done with the candles made in these machines.

A. My supervision or control ended when I had shipped the candles on board the company's schooner or lighter at the factory wharf.

Q. 12. To what place were they shipped?

A. The orders were for the schooner sometimes to report to the office of the company in New York for special orders, and some-
372 times to be delivered on board some vessel in New York.

Q. 13. Did you superintend the putting up of the candles into boxes at the factory while you was there?

A. My superintendence extended over the entire factory in all its operation, to the shipping of the candles, as before stated.

Q. 14. About what quantity of candles was moulded on these machines per day?

A. We did not usually keep an account of the candles moulded by the day; they were ordinarily operated about four times an hour, so far as I can recollect.

Q. 15. Did you keep any account of the candles moulded by those machines, by the month or otherwise?

A. The only account I kept would be an entry of the quantity that was shipped from time to time, from which an account could be made up at the end of the month; we have shipped, to the best of my recollection, as high as 180 odd thousand pounds per month.

Q. 17. Were the candles shipped from that establishment, as you have stated, made or moulded in the candle machines which you have stated that company had in use?

A. They were.

Q. 18. State if you know for what purpose the machines like model "Exhibit E, Stainthorp," each rack is in two parts, attached by hinges?

Objected to on the ground that no such rack is called for by the question, now appears upon the model referred to; but two racks, in four parts each, do appear on such model.

A. If I understand your question, the rack opens for the purpose of allowing the candles to pass up from the moulds into the said rack, as they would not pass up if the rack was closed; I mean, of course, when the piston platform is raised to push the candles out of the mould.

Q. 19. Look at the racks on "Exhibit E, Stainthorp," and state whether, if they were closed, the tip bar would be in the way, so that the candles could not be ejected up into them from the tip moulds?

A. The tip bar would be in the way when the rack is closed.

373 Q. 20. State whether or not, when the rack is opened, the tip bar is thrown back out of the way, so as to leave space for the candles to pass up unobstructed?

A. It is.

Q. 21. After the candles have been ejected into the racks and the racks closed, what portion of the candle, if any, rests upon the tip bar?

A. The portion of the tip or shoulders of the candle. What I mean by the shoulder, is the larger diameter of the tip where it may be said to join the body of the candle. The extreme tip or point of the candle mould would not rest on the tip bar; that would project below the upper surface and alongside of the tip bar.

Q. 22. Suppose, after the candles had been ejected from the moulds into the racks in the machines referred to by you, and while their shoulders rested upon the tip bar, as you have stated, you had desired to lift or throw the candles out from the upper side of the racks after the wick had been cut, would you have found any difficulty in so doing?

A. None whatever. My usual practice was, when overlooking the moulding of candles, to pass along by the machines, taking out a candle here and there to examine their appearance and quality and then returning it to the rack.

Q. 23. Did you find it necessary to open or loosen the rack in order to do this?

A. I did not.

Cross-examined by Mr. Norton:

Cross-q. 24. During the time that you were superintendent of the company's manufactory, referred to on your direct examination, were there any candles injured or broken, or broken tips, during the operation or manufacturing by means of the machinery referred to on your direct examination?

A. I have no recollection of any such injury, caused by the operation of the machines.

Cross-q. 25. Are you willing to swear positively that those machines did not, during each operation, break the candles or the candle tips, more or less?

374 A. I do not swear positively to any such thing. My former answer appears to cover that point.

Cross-q. 26. Please give the names of the parties, their residence or place of business, to whom the company referred to on your direct examination sold the candles made at those works.

Objected to, as the witness has already stated that his superintendency of the candles ceased when they were shipped as he has stated.

A. I have before stated that my supervision and control over the candles ceased when I had shipped them on board of the schooner and sent the invoice of the shipment to the company's office in this city. I have no recollection of having anything to do with selling candles to any one, except to the workmen in the factory, and sometimes a box or two to some person on the island. I have no recollection of any sales to individuals in the city by the company.

Cross-q. 27. You mean to be understood then, do you, that candles were boxed up at those works and shipped therefrom without specific orders, and without address upon the box to the person or persons to whom they were to be sent?

A. We had stencil plates sent to us from the office in the city with different names. These names represented different parties, who, I understood, sold the candles for the company.

Cross-q. 28. Look at plaintiffs' "Exhibit A, Stainthorp," and state whether, during your superintendency of those works on Staten Island, you used, or saw used in the manufacture of candles, candle machines with racks hinged to the candle machine frame, and with tip bars hinged to the rack, and with wick clasps attached to the tip bar and constructed and operated like those on this Exhibit A?

Objected to.

A. I did not see any such rack hinged to the frame of the machine, nor tip bar hinged to the rack, nor wick clasp attached to the tip bar. The difference between the rack used at the factory and the exhibit referred to consists in this; that our racks were sawed

375 through their length, the saw running across the holes in the rack, from one end to the other of the rack, so that the rack could open or shut the two parts fastened by hinges; the tip bar being affixed to one of the pieces forming the rack, the rack being maintained in its position over the mould by the rack rest or support at each end of the rack.

All that part of the answer commencing with the words "the dif-

ference," and subsequently following, is objected to by the defendant on the ground that it is not responsive to the question. And further, as testimony volunteered by the witness.

Cross-q. 29. You will please look at the racks, so called by you, on complainants' "Exhibit E, Stainthorp," and state the difference, if any, between these devices and those used by the company of which you were the superintendent, in construction and operation, and for the same purpose as those used under your superintendence on Staten Island, and during the time you were such superintendent.

Objected to by complainants' counsel, as this witness has not been called or examined as a mechanical expert on the part of complainants, and because it does not appear that the witness is familiar with machines.

A. It is between three and four years since I had anything to do with the machines at Staten Island, and I do not observe any difference between these and those at Staten Island in construction and operation.

Cross-q. 30. What has become of this company to which you refer; is it still in existence and doing business?

A. It is not in business, I believe.

Cross-q. 31. Have not these machines concerning which you on this examination testified to been advertised for sale?

Objected to as irrelevant and immaterial.

A. I think I have seen such advertisement. I think within some three or four months.

Cross-q. 32. Do you know of these machines having been sold recently?

376 A. I do not.

Cross-q. 33. Do you know where these machines now are?

A. I am not certain but some may be in the cellar of our store. There are some machines there, but I don't know whether any of them are the ones or not.

Cross-q. 34. Please give the street and number of your store, and state whether those machines in the cellar of that store are, as to construction and operation, as to an organized machine like complainants' Exhibit E, now before you, and give the number of machines, if you recollect.

A. 162 Greenwich street, New York. I cannot state positively whether they are the same as the exhibit or not, as I simply saw them standing on the walk and think somebody stated that they came from the factory, or something like that. The number I do not recollect. E. R. Bennett, my step-brother, carries on the business at that store.

Cross-q. 35. Are you willing to go to that store, examine those candle machines, and return to this examination and then answer the question No. 34.

A. I am not, as I have no interest so to do, and have spent time enough in the matter.

Cross-q. 36. Do you know whether, during your superintendency of those works on Staten Island, the plaintiff Seguine was a partner

or a stockholder in the company named by you on your direct examination?

A. I so understood him to be.

Cross-q. 37. Will you please give the names of each of the persons who personally operated those candle machines which you have described, and which you say were used by this company at their works on Staten Island. I refer to the time during which you were the superintendent. I desire the names and residence of those persons in full, if you know.

A. I do not recollect but three names—that of Mr. Stewart, who has appeared as a witness in this case, and I think there were two brothers by the name of Jobes—they resided on Staten Island when I left the factory, early in 1861, and I have not seen them, to my recollection, since.

Cross-q. 38. In answer to question No. 22, you state that it was your custom to pass along by the machine "taking out candles
377 here and there, to examine their appearance and quality, and then return them to the rack." Why did you do this?

A. For the purpose of observing the color, hardness, and general appearance of the candles—as a difference of temperature in the weather has its influence upon the color and the general appearance of the candle.

Cross-q. 39. These candles being thus loose in the rack, as you have stated, will you please state how, in what manner, and what means they got there in that condition?

A. By the raising of the piston platform, I believe it is called, the candle was pushed up through the mould into the rack—the rack having been opened to allow the candle to pass up into it—the rack closed, the wicks were then cut by passing a long bladed knife between the bottom of the rack and the top of the machine; the candle could then be removed at pleasure.

Cross-q. 40. What holds the candle while the candle-tip mould recedes from the tip of the candle to form the mould for the candle below?

A. I suppose there is more or less what may be called lateral support from the sides of the rack, but more particularly by the action of the tip bar, as an examination of the rack and tip-bar will show that the shoulders of the candle must be caught by the tip bar, as the tip mould falls away from the candle.

Cross-q. 41. Please explain how the tip bar can seize the shoulders of the candle (as defined by you) while that shoulder still remains connected with the tip-mould.

A. I can only state, as we have not a working model with candle-stock present, how the exact operation takes place, except as stated in my previous answer, but I will state that the tip mould drops faster than the candle would fall through the rack; the tip bar being moved or pressed against by the tip mould, it seizes the candle at the shoulder; furthermore, it would be seen in a practical operation, that the candle is supported vertically by its shoulder resting on the tip bar.

Cross-q. 42. Can you tell why there is not a tip bar on each of the lower sides or parts of those racks on this exhibit of complainants marked E?

Objected to.

378 A. In the first place, I see no necessity for it, and, in the second place, I think it would be in the way, and in the third place, it would be in the way of the tip mould when forcing itself from the candle; one side, or half of the rack, for a row of candles does not extend down equally low with its opposite half; this difference in depth of one-half of the rack allows of a slight lateral motion to the tip mould on leaving the candle.

Cross-q. 43. Will you please explain the use and purpose of that half part of the rack opposite to that to which the tip bar is attached, as you have testified?

A. To prevent the candle falling into a horizontal position when thrown up out of the mould into the rack.

Cross-q. 44. Is that all?

A. Yes.

Cross-q. 45. Now remove the inside of this rack, take it entirely from the machine, the tip bar on the opposite side would seize the shoulder of the candle and hold it while the tip mould recedes from the tip of the candle, would it not?

Objected to.

A. Of course it would not, as I understand the question.

Cross-q. 46. Do you understand the last question?

A. I think I do, and I have said of course it would not; I now speak of the practical operation of a machine without the inside half of the rack, as referred to in the previous question.

Cross-q. 47. How many rows of candle moulds had each of those machines concerning which you have to-day testified as having been used on Staten Island?

A. The machines we used on Staten Island contained four rows.

Direct resumed:

Q. 48. Have you any personal knowledge as to whether the candle machines in the cellar of the store 162 Greenwich street are any of the same machines which were used by the company on Staten Island?

A. No more than I have previously stated; I think I heard somebody say that.

379 Q. 49. Have you any knowledge that the candles made in the machines on Staten Island had their tips broken, or were otherwise injured by the use of those machines?

A. I have not.

Q. 50. Have you any personal knowledge as to whether or not Mr. Seguine was a stockholder in the Staten Island Oil and Candle Company?

A. I have every reason to believe that he was, as he exercised more or less authority, as an officer of the company; I think he was treasurer.

Q. 51. Do you know that the lateral support given to the candles by the sides of the rack is occasioned by all the sides of the candles

coming in contact with the sides of the rack at the same time, after the candles have been ejected into them?

A. I do not; I will explain what I mean.

Objection to any further answer, on the ground that the witness has already answered the question.

Witness continued: I mean that the candle standing loosely in the rack might, if held perpendicularly, be maintained in that position without touching the sides of the rack when it is closed, and provided the rack was clear, and free from candle stock.

Cross resumed:

Cross-q. Will you have any objections, or do you believe your brother will have any, for the defendant and his counsel to examine those machines in the cellar of the store to which you have directed attention, in company with you or him?

A. I have no knowledge whether he will have objection or not, and I shall be governed, of course, by what his views were about it.

J. W. STILES.

Subscribed and sworn to before me, this 12th of January, 1864.

R. E. STILWELL, *Examiner, &c.*

380 John Pierce, called and sworn on the part of complainants, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. John Pierce, 46 years of age, reside at Staten Island, and am a candlemaker.

Q. 2. Have you made candles by machinery, and how long and where?

A. About seven years, and at Staten Island.

Q. 3. Have you ever been in the employ of the Staten Island Oil and Candle Company; if so, from what time to what time?

A. I have; I commenced there about seven years ago, and was there until it broke up.

Q. 4. About what time did they break up business there?

A. About three years ago.

Q. 5. State whether or not that company used candle machines to make candles, and how many.

A. Yes, sir; they used candle machines; twenty-one.

Q. 6. Do you know James Reid?

A. I do.

Q. 7. State whether or not he worked at the establishment of that company while you were there, and whether you assisted him to make candles with a candle machine.

A. Yes, sir.

Q. 8. State how many pounds of candles was made on one of these machines in use by that company in one day.

Objected to, on the ground that it is immaterial to the purposes of this suit.

A. I can't tell exactly, but a great many.

Q. 9. Do you recollect assisting James Reid to operate one of those

candle machines one day, and do you recollect how many pounds of candles were made in that machine during that day?

Same objection.

A. I do, but I don't recollect how many pounds of candles was made, but a good many.

381 Q. 10. Do you recollect, during some portion of the time you worked in that establishment, that Captain Thain had supervision of the candle business there?

Same objection.

A. I do; I managed the business in the candle-room with the machines for him.

Q. 11. How many machines did the company have in use there while Captain Thain was superintendent of the business?

Same objection.

A. Twenty-seven.

Q. 12. How many boxes of candles were made with these twenty-seven machines per day?

Same objection.

A. Two hundred a day, and two hundred per night, in thirty pound boxes, being four hundred boxes in twenty-four hours.

Q. 13. State whether or not these candles were good and merchantable candles?

A. Yes, sir.

Q. 14. How many machines did Captain Thain bring there?

Objected to as before.

A. Six.

Q. 15. Then these six machines were in addition to the machines already there, were they not?

Objected to.

A. Yes; two were brought from Philadelphia by Mr. Thain, and four he bought of Mr. Seguine in New York.

Q. 16. Were these machines all alike in construction and operation?

A. Yes, sir.

Cross-examined by Mr. Norton:

Cross-q. 17. In what country were you born?

A. In England.

Cross-q. What time did you come to this country?

A. About nine years ago.

382 Cross-q. 19. Are you a citizen of this country?

A. No, sir.

JOHN PIERCE.

Subscribed and sworn to before me, this 12th of January, 1864.

R. E. STILWELL, *Examiner, &c.*

Adjourned to 5½ p. m.

Parties met pursuant to adjournment.—Counsel on both sides present.

John Kirkman, called and sworn on the part of complainants, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. John Kirkman; 63 years of age; reside in Williamsburg, and am a soap manufacturer; used to be a soap and candle manufacturer, but have not made any candles for a good while.

Q. 2. What is the number of the street and the name of the street where you carry on business?

A. 30. Catharine street, in New York, and have been there since 1837.

Q. 3. Have you ever used machines in the manufacture of candles?

A. Yes, sir.

Q. 4. Of whom did you procure these machines?

A. I think it was of Stainthorp & Co.; they are Stainthorp's machines, anyhow.

Q. 5. Have you any of those machines still on hand at your establishment?

A. I have four.

Q. 6. How long since you gave up the manufacture of candles?

A. I can't tell; it may be 18 months, and it may two years; can't tell which.

Q. 7. Why did you give up the manufacture of candles?

A. The reason I gave it up was, I wanted the room for one
383 thing, and I could make more by exchanging soap for candles.

Q. 8. With whom did you make any arrangement to exchange soap for candles?

A. James Boyd, of New York city.

Q. 9. About how long did you have these machines in use for making candles before you made the arrangement with Mr. Boyd to exchange with him soap for candles?

A. It might be from three to six months; it was not longer than six months.

Q. 10. About how many years have you been in the business of making candles by machinery?

A. Two or three years; I can't tell exactly; it may be more or less.

Q. 11. Look at complainants' "exhibit E, Stainthorp," and state how the machine purchased by you corresponds with or differed from that exhibit in construction and operation.

A. The only difference is, mine had iron sides around the moulds, and this has not; there is no other difference, except the supports or rests for the racks in this exhibit are movable, while mine was stationary; the principle is the same.

Q. 12. Do you mean in your last answer that the construction and operation of your machines were like "exhibit E, Stainthorp," with the exceptions which you have mentioned in your last answer?

A. In a general sense it was; I conceive the principle the same.

Q. 13. How did your machine operate in the manufacture of candles?

A. Very well; I mean the machines like "exhibit E, Stainthorp."

Q. 14. Did you find any difficulty with these machines like "exhibit E, Stainthorp," from their breaking the tips or otherwise injuring the candles?

A. No, sir; there was no difficulty on that point.

Q. 15. Do you consider the machines referred to in your last answer as valuable machines in the manufacture of candles?

A. Yes, sir.

384 Q. 16. State whether or not the candles, after being forced into the racks in your machines, like "exhibit E, Stainthorp," remained loosely in the racks, so that if the candle-wicks were cut from their tips the candles might have been easily drawn or thrown out from the top of the racks?

A. Yes, sir; they were perfectly loose, so that sometimes we would throw them on a shelf and take them out by hand, the same as an old-fashioned candle mould.

Q. 17. Did you find the candles perfectly loose in the racks when the racks were closed?

A. Yes, sir.

Q. 18. Suppose the candles were ejected into the racks, and the pistons and tip mould removed therefrom, and the tip bar cut away around the tip of the candles, state whether or not, in your machines like "exhibit E, Stainthorp," the candle would fall back into the moulds.

Objected to, on the ground that it is no place, at this stage of the case, for argument of plaintiffs' counsel, by asking questions, alleged by him to be such, of the nature and character of the last question.

A. Well, they would not fall back into the moulds, but they would go down until they fell below, say an inch or an inch and a half.

Q. 19. State whether you consider the manufacture of candles by your machine, like "exhibit E. Stainthorp," a rapid, successful, and economical way of making candles.

A. Yes, sir.

Q. 20. State whether or not you consider such machines useful and valuable?

A. Yes, sir; I do.

Cross-examined by Mr. Norton:

Cross-q. 21. How many machines, like "plaintiffs' exhibit E," in construction and operation, and referred to in your direct examination, have you now on hand?

A. Four.

Cross-q. 22. Where and of whom did you buy them?

385 A. Stainthorp & Co., down here in Warren street; 67 Warren street.

Cross-q. 23. When did you buy them?

A. About two years; I can't say positive.

Cross-q. 24. What price did you pay for each of these machines?

A. I exchanged them for wooden ones of the same principle I had before.

Cross-q. 25. Of whom did you buy the wooden ones you spoke of in your last answer?

A. Well, I think it was Stainthorp, but I can't say positive; my memory is so bad with reference to dates.

Cross-q. 26. Well, what did you pay for the wooden machines?

A. I don't know.

Cross-q. 27. Are the four machines which you have now on hand now in use?

A. No, sir.

Cross-q. 28. How long have they been idle?

A. I can't tell; about a year or 18 months.

Cross-q. 29. Are those machines for sale?

A. Yes, sir.

Cross-q. 30. Have you ever offered them for sale to any person?

A. Yes, sir.

Cross-q. 31. To whom?

A. To several.

Cross-q. 32. About how many times within the last eighteen months have you offered these machines for sale?

A. I have never offered them for sale except as when persons came into the store and were talking about the machines. I have offered them for sale perhaps to three or four different individuals.

Cross-q. 33. At what price have you offered to sell those machines?

A. One hundred and fifty dollars for the right to use them.

Cross-q. 34. You then have an interest in the patent in this suit?

A. No. sir.

386 Cross-q. 35. Are you an assignee or a licensee under that patent?

A. No, sir; except he grants me a license for selling my shop-rights.

Cross-q. 36. You now have a shop-right to use these machines, to sell or transfer, have you?

A. No, sir.

Cross-q. 37. Are you the owner of a shop-right under the complainants' patent in suit?

A. For as many machines as I have got.

Cross-q. 38. Of whom did you purchase that right?

A. Of Stainthorp & Co., I suppose.

Cross-q. 39. Is that in writing?

A. Yes, sir.

Cross-q. 40. You purchased them that right separate from the purchase of the machine, did you?

A. I guess that was under one transaction.

Cross-q. 41. When did you make this purchase?

A. When I had the first machines, 3 or 4 years ago; it may be five. I can't tell anything about it.

Cross-q. 42. Why did you purchase this right?

A. I could not have the machine without the right.

Cross-q. 43. Have you ever used any other kind of candle machines than these bought by you of Stainthorp & Co.?

A. No, sir.

Cross-q. 44. How do you know, then, that the Stainthorp machine, which you say was like plaintiffs' exhibit E, is a very valuable machine in the manufacture of candles?

A. On account of quantity of candles a man can make in a day.

Cross-q. 45. There may have been other candle machines, one of

which would make more candles in a day than this machine you have described, may there not?

A. There might for anything I know.

Cross-q. 46. What do you mean, in answer to the 11th question, by the words, "the principle is the same"?

A. The construction of the machine acts upon the same principle.

Cross-q. 47. What do you mean by the last answer?

387 A. Well, I mean, if I was travelling in England and saw a machine like that. I should say Stainthorp has a patent for that in America. (Pointing to plaintiffs' exhibit E.)

Cross-q. 48. Has Mr. Stainthorp, one of the plaintiffs' got a patent upon a machine like plaintiffs' exhibit E in construction and operation in this country?

A. I haven't examined the Patent Office, but I have seen his papers.

Cross-q. 49. What do you mean by his papers?

A. He showed me his papers for his patent right when he first came into my establishment.

Cross-q. 50. These papers represented and described just such a machine as that represented by plaintiffs' exhibit E, did they not?

Objected to as leading.

A. To the best of my recollection, they did.

Cross-q. 51. And on the exhibition of these papers you purchased a shop-right, did you, to use just such a machine, to the number which you have on hand?

Objected to.

A. Yes, sir.

Cross-q. 52. You would be glad to sell these four machines, would you not?

A. I don't care about it; I am not troubled about it, whether I sell them or not, because if I should make candles again I would want them; that is the reason.

Cross-q. 53. Do you intend to make candles again?

A. I can't tell; I have no room.

Cross-q. 54. You have kept these four machines on hand for twelve or eighteen months without running them because you could not sell them, have you not?

Objected to, because the defendant's counsel is not warranted, from the testimony of the witness, to draw any such assumption as is made in this question.

A. I did not care whether I sold them or not.

Cross-q. 55. You kept them on hand, then, for that length of time without using them as a sort of mechanical curiosity, did you?

A. No, sir.

Cross-q. 56. Why did you keep them on hand that length of time without using them?

Objected to, because the question has been already answered.

388 A. I told you I could make more by exchanging soap for candles than by using them.

Cross-q. 57. If you could make more money by exchanging soap for candles than you can by making candles, why don't you sell your candle machines?

Objected to, as the witness has already given his answer for not caring to sell his machines.

A. Well, I did not know but what there might a change take place; there are changes all the time.

Cross-q. 58. Do you intend to keep these machines on hand until some change takes place favorable to the manufacture of candles?

A. Well, I would sell them if a customer came in.

Cross-q. 59. You would have sold them a long time ago if anybody would have bought them, would you not?

Objected to, as the witness has already stated repeatedly that he did not care particularly whether he sold the machines or not, and because the question assumes that nobody would buy the machines, which is a gratuitous assumption on the part of the defendant's counsel, that fact nowhere appearing in witness's testimony.

A. Of course I would; I had to take them out of the room. I had to put a soap-kettle in the room, and take them up in the garret.

Cross-q. 60. You would sell them now if anybody would buy them, would you not?

A. Of course I would.

Cross-q. 61. In view of your answers to questions 59 and 60, you would not be very apt to find much fault with these machines, would you?

Objected to as to form.

A. I don't know any fault.

Cross-q. 62. Question repeated.

Objected to, because the witness has already said, in answer to the last question, "I don't know any fault," and to persist in asking him whether he would find any fault with a thing concerning which he has said he knew no fault, is absurd and very much out of the legitimate way of examining a witness, so far as the same have heretofore been developed in judicial proceedings.

A. If I knew any fault, I would.

389 Cross-q. 63. You are just one of those kind of men who, having property on hand with money invested therein, who would be quite apt and very particular to disclose to the purchaser all the bad qualities of the property to be sold, are you?

Objected to, as no part of a legitimate cross-examination, and being destitute of any characteristic of a fair question to the witness.

A. Just as it happened.

Cross-q. 64. You would prefer a poor bargain to a good bargain, would you?

A. Not very likely; I should have to be of a fresh stock.

Cross-q. 65. What do you mean by the last clause of your last answer?

A. I mean that the examining counsel and me would make a good bargain if we could.

Cross-q. 66. Look at plaintiffs' exhibit A, and state whether you have ever used, or seen used, in the manufacture of candles, any candle machine which had a rack hinged to the upper part of the

1403

frame, and a tip bar hinged to the rack, and a wick-clasp attached to the tip bar, like said exhibit in construction and operation.

A. Not to the best of my recollection.

Cross-q. 67. The same question applied to defendant's exhibit K, and an answer requested.

A. I never did, to my recollection; I don't know how that does work; I don't know that I ever saw one before in my life.

Cross-q. 68. Did you ever use, or ever see used, any candle machine in construction and operation like the candle mould and piston-tip mould, with but two rows of such moulds and pistons in one machine?

A. I don't know that I ever did.

Cross-q. 69. Why did you exchange your old machine, with wooden frame, for the iron machines?

A. Well, we used to make candles by water, and the copper used to leak.

Cross-q. 70. Now, what is the use and purposes of the cross-bolts, nuts, and screws on the outer side of the rack on complainants' exhibit E?

A. That is a subject I never examined into.

390 Cross-q. 71. Do you know anything in relation to the use and purposes of those cross-bolts and nuts?

A. I don't know anything about them, only that they are in these, and that is all I know about them.

Cross-q. 72. What is the use and purposes of the flat bar which remains lengthways between the racks and between these rods referred to in the last question?

A. When the candle comes up we open them that way, (pointing to the rod which turns edgeways;) when the candle is up we close it that way, (turns the rod horizontally;) then the candle drops down.

Cross-q. 73. The racks which you have described as having been upon the machines purchased by you of Stainthorp & Co., and on the machines which you now have on hand, could be, and are, removed from the machines for any purpose desired, could they not?

A. Yes, sir.

Cross-q. 74. They are a separated and disconnected device, at the will of the operators of the machine, are they not?

A. The machine would not be perfect without them; they may be removed at the will of the operator.

Cross-q. 75. As a practical manufacturer of candles, about how much would a candle machine be worth, constructed and operated like complainants' exhibit E, with the racks which you have described entirely removed therefrom, and not in use with the machines?

Objected to, as it does not appear that this witness ever tried such a machine with these racks off, nor does it appear that he has ever tried a machine with racks differing somewhat in construction or operation from the one shown in this exhibit.

A. That would all depend upon the ingenuity of the owners; I could fix something that would take the candles off.

Cross-q. 76. What would you fix for that purpose?

Objected to as immaterial and irrelevant.

A. I can't tell you.

Cross-q. 77. Question No. 75 is here repeated, and the witness requested to answer the question, as plaintiffs' exhibit E now
391 appears with such racks entirely removed therefrom, and no other fixture or device upon the machine in place thereof.

Same objection as to question 75.

A. It is worth as much as it ever was, deducting the price of the racks.

Cross-q. 78. Do you mean to be understood that candles can be just as well made in the candle machines, which you now have on hand, without the racks as with the racks?

A. Candles can be made just as good without the racks as with the racks, or something else.

Cross-q. 79. Candles made in the candle mould in your machine can be forced entirely out of such mould by the pistons, and stand perfectly perpendicular above the moulds, and the tip mould can return to the lower end of the mould and the candle-wick be perfectly centred in such candle moulds for the next set of candles just as well without the rack as with it, can they not?

A. No, sir.

Direct resumed:

Q. 80. In your cross-examination you state, that since you have ceased to use the Stainthorp machines in your establishment you have offered to sell them perhaps to three or four persons; do you mean to persons who came into your establishment on business, other than to buy candle machines?

A. They were on business of some kind or other in the trade.

Q. 81. But did not come in to examine and buy these machines of you, did they?

A. Some did and some did not.

Q. 82. Give the name of some person who came in to examine and buy these machines of you.

A. Higgins was one, of Brooklyn; I don't think of any others.

Q. 83. On to what does the candles drop down, as stated by you in your answer to the 72d interrogatory?

Objected to, on the ground, 1st, that this question is a question belonging to the cross-examination of this witness, which was
392 purposely omitted by defendant's counsel on the cross-examination of the witness, because defendant's counsel was satisfied with the answer which witness gave to question 72, and complainants' counsel has no legitimate right to have resumed an examination into that matter.

A. It drops down on to this tip bar (pointing to it in the clamp on plaintiffs' exhibit E.)

All the objections to question 83 are withdrawn by defendant's counsel.

Cross-resumed:

Cross-q. 84. How do you know that the candles drop down on to the tip bar, as stated in your last answer?

A. By seeing them fall down.

Cross-q. 85. From what position, and from what point, and how far do the candles fall down?

A. The candles are sent up through the rack a half or three-quarters of an inch or a quarter; can't say which; when the piston is drawn down you can see the candles all fall to their position.

Cross-q. 86. Now, what holds the candles while the tip moulds in the piston is drawn from the tip of the candle by the lowering of the piston platform?

A. They drop down on the tip bar and rest there.

Cross-q. 87. Now, how can the candle drop upon the tip bar, as you have stated, while the tip of the candle remains in the candle-tip moulds in the piston?

A. They can't do it; they will draw it down.

JOHN KIRKMAN.

Subscribed and sworn to before me, this 12th January, 1864.

R. E. STILWELL,
Examiner, &c.

Adjourned to 10 a. m., 13th instant.

393 Complainants' counsel here puts in evidence a certified copy from the Patent Office, of a caveat filed therein by John Stainthorp, November 18th, 1853; additional paper filed therein December 24th, 1853; an affidavit filed therein December 25th, 1853, also a copy file-wrapper, and certificate of the Commissioner of Patents thereto, dated December 16th, 1863; all in one parcel, and marked by the examiner "Exhibit F, Stainthorp."

Defendant's counsel objects to the introduction and reception in evidence of each and every of the above-named papers, on the ground that they are not rebutting evidence, and should have been put in, if at all, before the complainants closed their direct proofs.

Also a certified copy, from the Patent Office of the United States, granted to Willis Humiston, for alleged improvement in candle-mould apparatus, dated July 24th, 1855, number 13334, and the certificate to which is dated January 7th, 1859, and marked by the examiner "Exhibit G, Stainthorp."

Same objections, with the additional objection that there is no such patent in existence.

Also a certified copy of letters patent of the United States granted to said Humiston December 23d, 1851, No. 8607, for alleged improvement in candle-making apparatus, the certificate to which bears date the 13th day of July, 1857, and which certified copy patent is here marked by the examiner "Exhibit H, Stainthorp."

Same objection, with the additional objection that there is no such patent in existence.

Also a certified copy of letters patent of the United States to said Humiston, dated the 4th day of April, 1854, No. 10730, the certificate to which bears date the 9th day of March, 1858, and which certified copy is here marked by the examiner "Exhibit I, Stainthorp."

Same objection as first above given.

394 Also a certified copy from the clerk's office of the opinion and decision of his honor Justice Grier, in the suit of John Stainthorp and others *vs.* Elkinton, in the eastern district of Pennsylvania, the certificate to which bears date the 8th day of January, 1864, and which certified copy is here marked by the examiner "Exhibit J, Stainthorp."

Objected to the introduction and reception in evidence of the above-described paper, on the ground that the suit referred to in that paper is not now on trial in this court, the complainants having by their bill in suit reopened for readjudication all questions which were tried in that suit; the decision of that court cannot, for that reason, be introduced into this case as evidence on the part of complainants. And further, it is not rebutting evidence, the plaintiffs having long since, by notice to defendant's counsel, closed their direct proofs, and, if introduced, should have been introduced before complainants closed such proofs.

Also an exemplified copy of the opinion of his honor Judge Hall, in the suit of John Stainthorp *et al. vs.* Willis Humiston, in the circuit court of the United States for the southern district of New York, from the office of the clerk of said court, and which exemplification bears date the 9th day of January, 1864, and which copy is here marked by the examiner "Exhibit K, Stainthorp."

Same objections as to the last above given.

Complainants' counsel here puts in evidence a certified copy, from the Patent Office, of the files and records of that office, of papers filed on the application of John Stainthorp for a patent for improvement in machines for making candles, which application was patented, as stated in the certificate of the commissioner, appended to said copy, March 6th, 1855, and which parcel of papers is here marked by the examiner "Exhibit L, Stainthorp."

The defendant's counsel objects to the introduction and to the reception of a certificate and parcel of papers in evidence, on the ground, 1st, that the application filed by Stainthorp, plaintiff, November 18, 1854, was not patented, as stated by complainants' counsel,

395 but was rejected by the Commissioner of Patents, on the 7th day of February, 1855; that the only patent granted to Stainthorp was on an amended application, which was made February 18th, 1855; and 2d, because that application was made by a subject of the kingdom of Great Britain, without the payment of the government fee, and the making of the required oath in such case provided, such application being fraudulent; 3d, as no part of a legitimate rebutting evidence, the complainants having by notice long since closed their direct proofs; and, 4th, because the certificate of the commissioner is not correct upon its face.

Complainant's counsel objects to the foregoing statement in behalf

of the defendant's being accepted, or received as evidence in this case; the same having been made by the defendant's counsel, and taken down be the examiner, without any proof or evidence as the matters therein stated.

Defendant's counsel replies to the above statement of complainants' counsel, and says that his objections above given are not offered as evidence. To the truth of these objections, and their materiality herein, the defendant's counsel refers the court to the evidence of the defendant already in the case, respecting the matters stated in the objection.

397 Mayer Goodkind, called and sworn on the part of the complainants, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. Mayer Goodkind; sixty-three years of age; reside at 156 West 36th street, New York, and am a soap and candle manufacturer.

Q. 2. What is the name of your firm?

A. Goodkind Brothers.

Q. 3. State whether your firm manufacture candles by the use of machinery, and how long have they so manufactured?

A. Yes, sir; about two years and a half.

Q. 4. Look at complainants' "exhibit marked E, Stainthorp," and state how the machines used by your firm correspond with or differ from that exhibit.

A. They correspond with that exhibit so far as I can see.

Q. 5. How many such machines have your firm in use, and how long have they had them in use?

A. We have six, and have had them two years and a half.

Q. 6. Of whom did you procure them?

A. We procured them of Robert Scott, or some such name; I believe that is his name.

Q. 7. Do you know where Robert Scott now resides or can be found?

A. I heard he is dead.

Q. 8. Do you know of whom Robert Scott procured these machines?

A. He procured them of John Stainthorp & Co.; their firm is at 67 Warren street.

Q. 9. Did Mr. Scott also transfer to your firm a license from Stainthorp & Co. to use these machines?

A. Yes, sir.

Q. 10. Was this license transferred to your firm by Mr. Scott at or about the time the machines were sold to your firm?

A. Yes, sir.

Q. 11. During what portion of the time, for the last two
398 years and a half, have you used your machines in the manufacture of candles?

A. We have used them pretty near all the time.

Q. 12. What is the quality of the work done on these machines in the manufacture of candles?

A. The work is very good.

Q. 13. Do you consider your machines valuable machines to be used in the manufacture of candles?

A. I do.

Q. 14. State whether or not candles can be made on said machines rapidly, and in large quantities.

A. That depends altogether upon circumstances—cold or warm weather, for instance.

Q. 15. Have you observed whether these machines breaks the tips of the candles, or otherwise injure them during the manufacture?

A. Not if the India rubber is kept in good order, that is, the India rubber near the bottom of the clamp.

Q. 16. When the machines are in good working order do they work well and give satisfaction in the manufacture of candles?

A. They do.

Q. 17. State whether or not, after the candles have been ejected from the moulds into the racks, they set loosely in the racks and are not clamped.

A. They are not clamped; they set loosely in the racks.

Q. 18. What is the name of the candle maker of your firm, and how long has he been in your employ?

A. His name is Ernst Wetterer, and he has been in our employ over two years.

Q. Did you observe this morning Wetterer cut the wicks to several candles in one of your machines which had been ejected from the moulds into the racks, and then lift the candles from the racks while they were closed?

A. I did.

Q. 20. State whether or not the candles rested loosely in the racks, so that they were removed therefrom by the fingers without difficulty.

A. Yes, they did.

Q. 21. On what do the candles in your machines after they
399 have been ejected from the moulds and the racks are closed?

A. They rest on India rubber; such as shown in the racks on complainants' exhibit E.

Q. 22. What portion of the candles rest on these pieces of India rubber?

A. The tip.

Q. 23. What portion of tip of the candle rests on India rubber?

A. I call it the shoulder.

Q. 24. Look at the pistons and tip moulds in "complainants' exhibit E, Stainthorp," and state whether they are the same in construction and operation as the pistons and tip moulds in your machine.

A. They look to be.

Cross-examined by Mr. Norton, counsel for defendant:

Cross-q. 25. Look at complainants' exhibit A, and state whether you have ever used, or seen used, a candle machine for making candles which contained hinged racks to the candle machine frame, with tip bar hinged to the rack, and with wick clasps attached to the tip bar in construction and operation like those in said exhibit.

A. I don't know that I ever did.

Cross-q. 26. Same question applied to defendant's exhibit K, and answer requested.

1409

A. I don't know that I ever did.

Cross-q. 27. Did you ever see anywhere an organized candle machine like these exhibits referred to in the last two questions in construction and operation the same, or anywhere in use for the manufacture of candles; and, if so, when, where, and by whom?

A. I don't know as I ever did.

Cross-q. 28. Are the machines you have in use like these two exhibits in construction and operation as an organized machine?

Objected to.

A. They are not like those.

Cross-q. 29. In your answer to question 12, you say the qualities of the work is "very good." What do you mean by that answer!

400 A. I mean by that that the machines make good candles.

Cross-q. 30. Did you ever make a poor candle in these machines?

A. We did when we had poor tallow.

Cross-q. 31. What do you call poor tallow?

A. I call poor tallow what is soft and mixed with grease; there is a good many kinds of poor tallow, some of it is burned, some we buy, others we burn ourselves.

Cross-q. 32. Poor tallow will cause the candles to break, or their tips to break, more or less, by the machinery described by you on your direct examination, will it not?

A. Thi sdepends altogether how the tallow is heated; sometimes it is poured in too hot, and sometimes too cold; this makes the candles break; it makes the candles impure, as we call it.

Cross-q. 33. Where do the candles break in these machines? Is it while they are in the moulds, or while being forced from the mould, or while in the rack, or while the racks are being closed?

Question objected to by complainants' counsel, as assuming that the candles made in these machines break in the mould, or while being forced from the moulds, or while in the racks, and while the racks are being closed, which assumption is not warranted by anything the witness has testified to.

A. I have seen them crack some in the moulds; I have seen them break in the tips when the India rubber was not fastened down good, and I have seen the cold weather crack them.

Cross-q. 34. Did you ever see candles broken or cracked, or their tips broken or cracked, while these machines were in operation?

A. I have.

Cross-q. 35. A candle made of poor tallow, and laying upon a table or elsewhere alone and undisturbed, would be as apt to break in that position as while in, and during the operation of one of these machines, would it not?

A. I don't know as it would.

Cross-q. 36. In your answer to question 13, you say you consider the machines referred to on your direct examination "valuable"

401 machines in the manufacture of candles; what do you mean by the term "valuable"?

A. Inasmuch as they save labor and make candles uniform.

Cross-q. 37. Did you ever use, for the purpose of manufacturing candles, any other candle machine than that described by you on your direct examination?

A. We have used a hand stand, and we have used one machine which is not of Stainthorp's patent; I don't know whose patent that is; it is pretty nearly the same as Stainthorp's, as much as I can see.

Cross-q. 38. How does that machine work in the manufacture of candles, as to quality of work and quantity?

A. It don't work as good as Stainthorp's; we only use it when we are forced to use it.

Cross-q. 39. In your answer to question 17, you say that the candles, after they are ejected into the clamp or rack are not clamped, but set loosely therein; will you please explain how, in what manner, and by what means they got there, and in that condition?

A. They got there by lifting them out of the machines; that is the only way I can answer that, that I know of.

Cross-q. 40. What time this morning was Mr. Seguine, the complainant, at your manufactory?

A. I don't know Mr. Seguine; this gentleman was there, (pointing to Mr. Ondrus.) I know Mr. Seguine here to-day, who I always took to be Mr. Stainthorp.

Cross-q. 41. Was the gentleman at your place this morning—the gentleman who examined you on your direct examination to-day in this cause?

A. Yes, sir.

Cross-q. 42. What conversation was had between you and plaintiffs' counsel on your first interview, this morning, in relation to the candle machines referred to in your direct examination?

A. He came into the office, and told me to show him the candle machines; he pointed out the place where the tip of the candle rests upon; I don't remember anything else; we were talking, also, about what they call the cranks.

402 Cross-q. 43. Upon being shown by plaintiffs' counsel the place where the t p of the candle rests in those machines, and without any knowledge, on your part, of this suit or this examination, you came to Mr. Gifford's office this morning, did you?

A. No; he told me that he would like me to be here at twelve o'clock as a witness, and I told him I could not be here before two o'clock.

Cross-q. 44. Will you swear positively that you have now stated all of the conversation, and all that took place between you and the plaintiffs' counsel, at your works this morning, in relation to these candle machines referred to on you direct examination?

A. This is all I can recollect, except telling me that he would like to have our candle maker as a witness in this case.

Cross-q. 45. Will you now swear positively that you have now stated all the conversation, and all that took place in relation to these machines referred to on your direct examination, by and between you and the plaintiffs' counsel, at your works, this morning?

(Objected to, as the witness has already stated that he has mentioned as fully as he can now recollect concerning what was said, or what took place, on the occasion referred to.)

A. All, as I have said before; except I told him that I wanted to have a subpœna, as I had an order to turn out to do military duty, which would exempt me from fine; that is all I can recollect.

Cross-q. 46. Were any of your machines operated, this morning, in presence of plaintiffs' counsel?

A. They were not.

Cross-q. 47. How came you to observe this morning that which you have testified to, relative to those machines, in answer to question No. 19?

A. I don't call it operating, by cutting off one or two candles, and taking them out, and putting them back in the rack; I observed it because he showed me the place where the candle rested on.

Cross-q. 48. Did the plaintiffs' counsel show you, at your
403 works, this morning, the place where the tips of the candles rest while candles were in the machine?

A. He did.

Cross-q. 49. Was this during the operation of the machine at that time?

A. It was when we cut the candles off.

Cross-q. 50. Were the candles forced from the moulds, this morning, into the racks, while the plaintiffs' counsel was present?

A. Not that I know of.

Cross-q. 51. About what length of time had these candles remained in the racks, with the wick connected with the wick in the mould below, when you and the plaintiffs' counsel came into the presence of these machines, this morning?

A. I can't tell how long, as I wasn't in the candle factory for a day before that.

Cross-q. 52. Were the moulds below these candles filled at the time the wick was severed, this morning, at the time you and the plaintiffs' counsel were present?

A. No, they was not.

Cross-q. 53. Who cut this wick, this morning, in those machines?

A. Our candle-maker did.

Cross-q. 54. At whose request was this done?

A. No one requested him.

Cross-q. 55. You say, in answer to question number twenty, that the candles rested loosely in the rack, and that you saw them removed therefrom with the fingers without difficulty; who owned those fingers that removed those candles?

A. Our candle-maker did.

Cross-q. 56. At whose request did your candle-maker, this morning, in your presence, and in presence of plaintiffs' counsel, remove these candles, in the manner which you have testified on your direct examination?

A. At nobody's request; nobody requested him.

Cross-q. 57. Why, and for what purpose were these wicks cut, and

candles removed, as in the manner you have testified on this examination?

A. Well, I can't explain it any better than that our candle-
404 maker can't speak English very good, and him hearing us talk about that, cut them off on his own accord; he just lifted them up, set them back, and did not say anything that I know of.

Cross-q. 58. Did the plaintiffs' counsel tell you, this morning, what he wanted to prove by you on this examination?

A. He did not.

Cross-q. 59. You came here to be examined by him, without knowing what he desired to prove by you, did you?

A. Well, as I said before, I did not.

Cross-q. 60. You knew then what you were to testify to on this examination before you came here, did you?

A. No; I did not know any such thing.

Cross-q. 61. What country were you born in?

A. Born in Germany.

Cross-q. 62. How long have you been in this country?

A. About sixteen years.

Cross-q. 63. Are you a citizen of this country?

A. I am.

Cross-q. 64. How long have you been such?

A. Twelve or thirteen years.

Direct resumed:

Q. 65. About what age were you when you came to this country?

A. About 17.

Q. 66. Do you recollect whether there was hardened tallow in the trough or vat under the racks, this morning, in the machine in which the wicks were cut?

A. It was hardened tallow in the trough.

Q. 67. What material do your firm use in the manufacture of candles?

A. We use tallow.

Q. 68. State whether or not, when your machines are in good working order, and the moulds of proper temperature, and the tallow of suitable quality, they make good and merchantable candles.

A. They do.

Q. 69. What is done with the candles manufactured by your firm?

A. They are sold in the market.

405 Q. 70. Is it the intention and purpose of your firm to use good and uninjured tallow in the manufacture of candles, and to have the moulds of proper temperature in which they are cast?

(Objected to as no part of a legitimate redirect examination of this witness, as new matter, entirely immaterial for any of the purposes of this suit.)

A. It is.

Q. 71. Did you know that Mr. Andrus was coming to your establishment this morning?

A. I did not.

Q. 72. Had any preparation been made with your machines, to show him candles therein, or to show him the machines?

A. There was not.

Q. 73. Do you now recollect of his asking you, (your candle-maker being present,) whether the candles were loose in the racks when they were closed, or whether the racks clamped and held them firmly?

A. I don't recollect.

Q. 74. State whether you knew, before Mr. Andrus came there this morning, that the shoulder of candles in racks rested upon the piece of India-rubber you speak of, and were loose in the racks, so that they could be easily removed therefrom when the racks were closed.

A. I knew that ever since we had the machines.

Q. 75. State whether or not candles were resting in the racks of most all your machines, when Mr. Andrus came there this morning.

A. Yes; they were all resting in the racks, I think.

Cross resumed:

Cross-q. 76. Will you please explain how and why hardened tallow remained in the troughs of your candle machine this morning, while the candle moulds were not filled or the wicks severed.

A. Because I think they were filled fifteen minutes or half an hour before; I think I have not stated that the moulds were not filled.

Cross-q. 77. What holds the candles in the racks while the tip moulds in the pistons are being separated from the tips of the candles?

406 A. The India-rubber holds them, and this, (referring to rack on exhibit E,) that is, if the racks are closed; that is as near as I can explain it.

Cross-q. 78. Now, if the candles are perfectly loose in the racks, how is the candle wick centred, and by what means for the next set of candles in the moulds below?

A. I don't work those machines any myself; the tallow being hard in the trough, it holds the wick in the centre of the mould, and so does also the candle, which is on the racks before it is cut; that is what keeps the wick straight.

Cross-q. 79. What you have testified to on your cross-examination, and what you have testified to on your re-cross-examination, is correct and truthful, as to all the matters therein testified about, is it, and you have no desire for any change in respect thereto, have you? (Objected to.)

A. It is, to the best of my knowledge and belief; I can't tell until I have read the examination.

Direct resumed:

Q. 80. In your last examination you state in relation to the moulds in which the machine from which the wicks were cut, you don't think that you have stated on this examination that the moulds on that machine were not filled when the wicks were cut; if you have so stated, do you wish to correct your answer in that respect? If you do, please do so.

A. I do; the moulds were filled of course.

Cross examined :

Cross-q. 81. Have you now corrected and made all the changes in your cross and re-cross examinations to-day which you desire to make?
A. I have.

MAYER GOODKIND.

Subscribed and sworn to, before me, this 13th January, 1864.
R. E. STILWELL,
Examiner, &c.

Adjourned to 7¼ this p. m.

Counsel met pursuant to adjournment.

407 Ernst Wetterer, called and sworn on the part of complainants, deposes and says :

Q. 1. What is your name, age, residence, and in whose employ are you?
A. Ernst Wetterer; thirty-nine years of age; reside in New York city, and am in the employ of Messrs. Goodkind Bro's, in this city.
Q. 2. State what you do in their employment.
A. Make candles.
Q. 3. Are you the candle-maker of that firm?
A. I am.
Q. 4. How long have you been in their employ as candle-maker?
A. Over two years.
Q. 5. What is the street and number where that firm do business in the city of New York?
A. 481 Seventh avenue.
Q. 6. Do you use candle machines in the manufacture of candles?
A. Yes, sir.
Q. 7. How many?
A. Six.
Q. 8. Look at the complainants' "exhibit E, Stainthorp," and state how the machines in use at Goodkind Bro's', correspond with that exhibit in construction and operation.
A. The same make in construction and operation.
Q. 9. How many such machines could one man and a boy tend in making candles?
A. From twenty to thirty machines.
Q. 10. Do you have any one to help you to make candles, in the six machines at Goodkind Bro's'?
A. No, sir.
Q. 11. State how long you have worked these machines in making candles.
A. Over two years last fall.
Q. 12. State whether these machines worked well, and made good candles.
A. Yes, sir.

408 Q. 13. Do you recollect of my being at Messrs. Goodkind Bro's' establishment this morning, and looking at the candle

machines? If you do, state whether you were present with Mr. Goodkind and myself at the time.

A. He was there looking at the machines and candles, with Mr. Goodkind and myself.

Q. 14. State whether the candle moulds were filled, and whether candles were thrown up into the racks in these machines, this morning, when we were there.

A. Yes, they were all filled, and candles were in the racks.

Q. 15. Do you recollect cutting the wicks to several of the candles in the racks this morning, and taking some of them out of the racks?

A. Yes; I cut two candles off, and took them out of the rack, and put them in again.

Q. 16. Was the rack closed containing the candles in which you cut the wicks, took out the candles, and put them in again, when you did this?

A. Yes.

Q. 17. What did you cut the wicks and take the candles out for?

A. I saw that Mr. Goodkind and this gentleman wanted to see it.

Q. 18. Did either of us tell you to cut the wicks and take out the candles?

A. No, sir.

Q. 19. State whether the candles, after they are forced into the racks, in these machines, are loose, so that they may be easily taken out of the rack when the rack is closed.

A. Yes, sir.

Q. 20. On what, if anything, do the candles rest when they are thrown up into the racks, when the racks are closed?

A. On India-rubber.

Q. 21. Do you mean on India-rubber such as is shown on complainants' "exhibit E, Stainthorp?"

A. Yes.

409 Cross-examined by Mr. Norton:

Cross-q. 22. About how much would a candle machine, constructed and operated like complainants' exhibit E, be worth in the manufacture of candles, if it had no racks, or any other device to receive and hold the candle when ejected from the moulds?

(Objected to, because if the rack or other device spoken of in the question were taken off, it would not be like the exhibit referred to.)

A. No use.

Cross-q. 23. Look at plaintiffs' exhibit A, and state whether you have ever used or seen used in the manufacture of candles a candle machine constructed and operated as an organized machine like this exhibit.

A. No, sir.

Cross-q. 24. Same question applied to defendant's exhibit K, and an answer requested.

A. No, sir.

Cross-q. 25. How many rows of candle moulds are there in each of the machines referred to on your direct examination?

A. Every machine has got four rows.

Cross-q. 26. About how many pounds of candles could you make in a day of merchantable kind, in machines without any racks or other device to receive and hold the candles above the candle mould?

(Objected to, as it does not appear that the witness has used a machine of the description referred to in the question, and also because it does not appear that the racks or other similar device has anything to do in making the candles, but it does appear that the office of the rack or tip bar, or other similar device, is to hold the candle after it is made.)

A. Can't use it without racks; the candles are good enough without the racks, if you take hold and hold them while they are coming out; in this way you could make only a couple pounds per day.

Cross-q. 27. Without the racks on those machines, or without any similar device, could you centre the candle wick in the moulds for the next set of candles?

A. It takes too much time to centre them.

410 Cross-q. 28. Are the racks on the machines about which you have testified detachable from the machine, portable, and movable at the will of the operator?

A. Any time we can take them off, when the tallow is cool enough for cutting the wicks, and the wicks are cut.

Cross-q. 29. On your direct examination you testify that the shoulder of the candles rests upon the rubber strip, at the lower edge of the rack; is that rubber strip at that time between the shoulder of the candles and the candle-tip mould in the upper end of the pistons?

(Objected to, because the question is indefinite as to the particular time which is meant, and calculated to mislead and entrap the witness, who understands and speaks English very imperfectly.)

A. The candle is over the rubber, and the piston is below.

Cross-q. 30. What holds the candles in the racks while the candle-tip moulds in the upper ends of the pistons is being disconnected, or removed from the candle tip by the lowering of the pistons and platform?

A. When the racks are open, the tip moulds hold the candles; when I close the rack the rubber holds the candles.

Cross-q. 31. Where does the rubber seize the candle on the receding of the piston tip mould?

(Objected to, because it does not appear the question means what part of the candle is seized by the term "where," or what is meant by that term as used in question; as is therefore indefinite and uncertain in that respect.)

A. Seizes it on the shoulder.

Cross-q. 32. Is any part of the candle pressed against by closing these racks, by turning the flat bar from a perpendicular to a horizontal position?

A. It don't press the candle; the candle stands straight on the rubber.

Cross-q. 33. Does any part of the wood of the racks in anywise come in contact with the candles upon the closing of the rack?

A. It touches it very slightly, but don't hold it.

Cross-q. 34. What is the object and purpose of the rod
411 running across each end of these racks with nuts and screws on the ends of them?

A. To hold the candles straight upon closing the racks.

Cross-q. 35. What is the object and purpose of the flat bar running lengthwise between these racks and cross-bolts?

A. For to lock the racks so as to hold the candles.

Cross-q. 36. Will you please to put your little finger into one of the recesses or holds in the rack of complainants' exhibit E, from the upper side, for the purpose of receiving the candle, and hold it there while I turn the perpendicular bar, from a perpendicular bar to a horizontal position, in reference to the rack, then tell me whether you feel a pressure upon the finger caused by that part of the rack above the tip bar.

(Objected to by complainants' counsel, as the experiment proposed upon the witness's finger is no fair test as to whether a candle of smaller size than his finger, such as that rack is fitted for, would be squeezed or pressed.)

A. It holds my finger in there, but holds it harder by screwing down the nuts on the cross-bolts.

Cross-q. 37. How long have you been engaged in the business of making candles by machinery?

A. Six years.

Cross-q. 38. What kind of machinery have you used during that time in the manufacture of candles?

A. Now, Mr. Stainthorp's; before that for Allen Hay, with the Humiston machines.

Cross-q. 39. Were all the candles made by you on the machines referred to on your direct examination perfect and merchantable candles?

A. Yes.

Cross-q. 40. Do you mean to be understood that there were no candles broken or candle tips broken by any of those machines during this operation, and during the time referred to on your direct examination?

A. No; the candles were all good that I made.

Cross-q. 41. Do you mean to be understood that there were no injured candles, by breaking their tips, or otherwise, by these machines during any of the time referred to on your direct examination?
412 (Objected to, as already answered.)

A. If the machines are in a room where there is a certain temperature, there the candle will not crack; it is not the machine that cracks them, but the cold weather; the machines would not break them.

Cross-q. 42. Did you ever see the shoulder of the candles bruised

or marred by means of the rubber strip about which you have testified on your direct examination?

A. No.

Cross-q. 43. The rubber strip does not touch any part of the candle until after the pistons have been lowered, does it?

(Objected to as assuming and leading.)

A. It depends altogether how you raise it up; when the rack is open it does not touch it; when you let it down and close the racks it catches it.

Cross-q. 44. How many of the machines referred to on your direct examination have you attended or operated in the manufacture of candles in one day?

A. Six machines.

Cross-q. 45. Did you ever use at one time, in the manufacture of candles, more than six of such kind of machines in one day?

A. Six of the Stainthorp machines is all I have used.

Direct examination resumed:

Q. 46. Did you ever use or see used a machine with the racks off, as referred to in the 22d interrogatory?

A. I never did; I never worked them without the racks.

Q. 47. In the 23d and 24th cross-interrogatories you were asked to look at complainants' exhibit A and defendant's exhibit K, and state whether you have used or seen used in the manufacture of candles a candle machine like those exhibits; in your answers to those questions, I observed you particularly inspecting the racks hinged to the frames of those exhibits, and also the tip bars hinged to the racks, having wick clasps attached thereto; you will please state whether in answer to those questions you had reference particularly to
413 the racks and tip bars so hinged, and the wick clasp attached thereto.

(Defendant's counsel objects to the question, on the ground that the witness in question, referred to by counsel in his question, was not inquired of in the manner represented in the question.

2. The counsel has no right to suggest to the witness any observations of the kind or character referred to in the question.

3d. As tending to mislead the witness in his answer.)

A. I meant that I had never seen anything like these clasps or racks before in any part.

Q. 48. At question 36 in your cross-examination you are requested to place your little finger in one of the recesses or holes of complainants' exhibit E, while the defendant's counsel turned the bar in that rack, for you to ascertain whether you felt a pressure on your finger when the bar was turned, and after the experiment was tried you stated in substance that you felt some pressure upon your finger; you will please insert the same finger into the stationary mould under the racks of that exhibit, if you are able to do so.

A. I have tried, and have inserted it as far as my finger-nail.

Q. 49. Can you insert your finger any further?

A. No.

Q. 50. How far did you insert your little finger into the top of the

clamp hole, when you tried the experiment requested in the 36th cross-interrogatory?

A. An inch and an eighth.

Q. 51. State whether the holes in the rack on that exhibit is not larger in diameter than the inside of the candle moulds.

A. The holes in the racks are the largest if they are op n.

Q. 52. Are not the holes in the racks larger in diameter
414 than the inside of the candle moulds in exhibit E, Stainthorp, when the racks are closed?

A. The holes in the racks are larger than the holes in the candle moulds in exhibit E, Stainthorp.

Q. 53. You state in your cross-examination that you used Humiston machines at Mr. Allen Hays's; you will please state how they worked, and whether any objection arose to the machines at that establishment.

A. There was a complaint about the wicking being on the side of the candles; it depended altogether who worked them; the racks had lining, but no rubber; the machine worked well only when the workmen were in a hurry, and then the wick would get sideways.

Q. 54. State whether these Humiston machines, or any of those were sent away to be repaired or fixed, or whether any person came to Mr. Hays's establishment and repaired or fixed those machines, or any of them, or whether these machines, or any of them, were repaired or fixed.

A. They were wooden frames first, and then altered into iron frames; all I know, after that, is that some of the iron frames got cracked below; were not strong enough.

Cross-examination resumed:

Cross-q. 55. What is the length of that part of your finger which you put into the upper end of the defendant's candle mould, exhibit E, Stainthorp?

A. It was as long as my finger-nail; it measured five-eighths.

Cross-q. 56. When you put your finger into the rack, how near did the lower end of the finger come to the rubber strip in the tip bar?

(Objected to, because the distance inquired of was not named, when the witness was requested to insert his finger into the rack, on his cross-examination; and the measurement of the distance at the present time, after the question is put, is no fair test or criterion to determine what distance he formerly inserted his finger in the rack.)

A. Seven-eighths of an inch.

Q. 57. You will please put the same finger into the same rack, and the same hole, from the under side of the rack, and as far
415 in the rack as you put it into the candle mould in exhibit E, Stainthorp, and hold it there while I turn the perpendicular bar to a horizontal position, and then tell me whether you feel a pressure upon that part of your finger from the racks as they approach each other.

(Objected to by complainants' counsel, as inserting the large part of the witness's finger into the space intended for the small tip of the

candle when the rack is closed is no fair test to show whether the tip of the candle would be pinched and squeezed there or not, especially as it is not shown that the size of the witness's fingers corresponds with the size of the tip of the candle.)

A. There was more pressure on it than it had before.

ERNST WETTERER.

Subscribed and sworn to before me, this 13th of January, 1864.

R. E. STILWELL, *Examiner, &c.*

WEDNESDAY, *January* 13, 1864.

Present: Counsel on both sides.

Francis C. Treadwell, jr., called, and sworn on the part of the complainants, deposes and says:

Q. 1. Have you heretofore been examined as a witness in this case?

A. I have.

Q. 2. Have you read, and do you understand, the contents of the defendant's exhibit B, purporting to be a copy of the patent to Joseph Morgan?

A. I have read the same, and believe I do understand it.

Q. 3. State what the model now shown you, marked by the examiner complainants' exhibit M, Stainthorp, represents.

(Defendant's objection reserved till after answer.)

A. It represents a candle-making machine, substantially as described in the Morgan patent referred to in my last answer, showing the reservoir, two railways, turn-table, grooved table and clamp, the ramming mechanism, the mechanism for releasing the rammers, and the traveling candle-mould stands, containing candle moulds
416 with movable nozzles and wick reels, and forceps for centring the wicks and holding them in place, while the travelling candle-mould stands are being carried about on the railway; there is, in the model, a mechanism for lifting travelling candle-mould stands up to the reservoir so as to receive the melted material without spilling, and then to lower the stands so as to permit them to travel on the railroad under the reservoir, as described in the patent; this lifting mechanism is not described in the patent; the mechanism in the model for opening the valves of the reservoir, and the valve in the same for letting out the melted material, is different in form from that described in the patent, but the operation of the same for supplying the travelling moulds with melted material from the reservoir is substantially the same as described in the patent.

(To the introduction of this model in evidence in this cause the defendant's counsel does not object, but to the description given by the witness of the same as an organized machine, the defendant's counsel does object, on the ground as wholly and entirely immaterial for any of the purposes of this suit; and 2d, as no part of a legitimate rebutting evidence; and 3d, because the plaintiffs' patent in suit is not for an organized machine, but for a special combination of certain special and limited devices; 4th, because the descriptions given by the witness, of this model, do not correspond to or agree with the description or specifications in the Morgan patent referred to.)

Q. 4. State if you find described in defendant's exhibit B, purporting to be a copy of the Morgan patent, the combination specified in the first claim of the patent to John Stainthorp, dated March 6, 1855, and give your reasons for any conclusion you may express thereon?

(The question is objected to by defendant's counsel as not calling for legitimate rebutting evidence—1st, because the defendant introduced the Morgan patent referred to, for the purpose only of showing to the court that the machine built by defendant, and known as the Humiston candle machine, so far as relates to candle moulds and candle-tip moulds, and drive-rods or rammers, were not new devices, or new in their combinations, but were found, and in combination
417 substantially the same in the said Morgan patent.)

A. I do not find in said copy of the Morgan patent the combination of pistons formed at their upper ends into moulds for the tips of the candles, in combination with candle moulds to throw out the candles in a vertical direction, substantially as specified in the first claim of the Stainthorp patent, and in the specification therein referred to; but, on the contrary, I find a construction of mechanism for making candles, in the Morgan patent, that is antagonistic in its mode of operation to the mode of operation of the Stainthorp combination referred to. In the first place, the candle moulds in the Morgan machine are not stationary in the operation of the machine, but travel about in various directions, upon railways, and are turned over by a turn-table, and they are also carried from one railway to the other, on each side of the machine. In the next place, the candle-mould stands, or candle moulds, are not combined with the devices shown and described, as the pistons D D, in the manner substantially as described in the said Stainthorp patent; that is, there is not organized with the candle moulds a mechanism such as the pistons D D, to throw out the candles in a vertical direction. There is, in the said machine of Morgan, a series of rammers confined in a horizontal table of guides, which, when the candle moulds are brought to it and laid down before it in a horizontal position, take hold of the movable or sliding pieces in the end of the candle moulds, and push out the candles in a horizontal direction, and draw back the sliding ends after the candles are pushed out. But as this mechanism is common to a large number of candle-mould stands, it has to be detached from the candle-moulds after the candles are pushed out, and for that purpose a releasing mechanism, which consists of a second series of rammers, or plungers, operating within the driving rammers, to release a catch in the driving rammers (which takes hold of a knob on the end of the sliding pieces of the candle mould) is provided, whereby the candle moulds are released from the ramming mechanism every time the candles are forced out. The releasing of the candle moulds from the ramming mechanism in the operation of said Morgan machine is also necessary for the purpose of filling the candle moulds with
418 melted material, as they have to be changed from a horizontal position to a vertical position for that purpose; and also because they would not be portable, and could not be carried around upon the railways, and operated upon the turn-table, as described in

Morgan's patent, if they continued to be attached to a ramming mechanism. Moreover, the construction of the machine is such, as a whole, that even if the rammer were not detached, and were it possible to fill the moulds and have the candles set in them while in a horizontal position (which it is not) if the machine were to be upended, it would not work to throw out candles in a vertical direction, or for any practical purpose without alteration in construction, because, 1st, the candle moulds, not being fast to the machine, would fall over; 2d, the machine is only fit to be operated as described in the patent, with a set of travelling mould stands common to the ramming mechanism and the railways, &c., and to throw out the candles in a horizontal direction. By combining the pistons D D, formed at their upper ends into moulds for the tips of the candles, with stationary candle moulds, the combination so organized and arranged, as described in the Stainthorp patent, as to throw out the candles in a vertical direction, a new mode of operation, as respects the Morgan machine, is introduced, and it becomes possible and practicable to fill the moulds with melted material, and throw out the candles from them without moving them from their position, or causing them to travel around on railways, and be turned over on turn-tables, and transported from the terminus of one railway to the beginning of another by hand, as the candle moulds do, and have to do, in their journey through the Morgan machine.

(The defendant's counsel objects to all of that part of the answer which does not relate specifically to the combination of the devices called for by the question as not responsive to the question, and also as wholly and entirely immaterial for any of the purposes of this suit; and 2d, as not rebutting evidence; and 3d, the argument of a witness under oath cannot be received as evidence in a court of equity.)

419 Q. 5. Have you examined, and do you understand defendant's model, exhibit A A A?

A. I have examined and believe I do understand the construction of the said model.

Q. 6. Did you hear the testimony of George B. and Charles H. Whitfield, given in this case relative to said exhibit, and to the other models referred to by them in their testimony?

A. I did.

Q. 7. State whether or not you find, in defendant's exhibit A A A, or in the description thereof, and in the other models last referred to by said George B. and Charles H. Whitfield, the combination specified in the first claim of said patent to John Stainthorp, and give your reasons for any conclusions you may come to.

(Objected to by defendant's counsel, 1st, because this exhibit was only introduced by the defendant for the purpose of showing to the court that vertical stationary candle moulds, and vertical stationary candle-tip moulds in combination therewith, and in combination also with the movable platform found in the machine built by defendant, and known as the Humiston candle-machine, are old devices, and old in their combinations; 2d, the question, therefore, is no part of a legitimate rebutting device; and 3d, because the witness, if he heard

the testimony of the witnesses referred to, has no right to testify to any descriptions of this machine given by those witnesses—their testimony being only within the province of the court to examine and determine upon ; and 4th, because the witness has no right, under oath, to give as evidence arguments that belong only to counsel.)

A. I do not find in the exhibit A A A, and in the other model and experimental machine described by the Messrs. Whitfield in their testimony referred to, the combination specified in the first claim of the Stainthorp patent. From the construction of the model A A A, and from the testimony of the Messrs. Whitfield respecting the other model and experimental machine, I understand that the operation of discharging the candles from the moulds was performed by pulling them from above by means of the pulleys, cords, and hooks attached to the wicks above the moulds, and not by ejecting them
420 by means of the devices described in the Stainthorp patent as pistons D D, formed at their upper ends into tip moulds, which pushed the candles out of the moulds from below. There is in said model A A A, and I understand from the Messrs. Whitfield's description there was in the other models and experimental machines, sliding tip moulds connected to a platen by short stems, and operated by a lever, (or, as in the experimental machine, by wedges,) for the purpose of starting or loosening the candles from their adhesion to the moulds, so that they might be drawn out by the pulleys, cords, and hooks above. I understand, from the elder Mr. Whitfield's testimony, that these short, sliding tip moulds were designed for, and only used for the purpose of starting the candles, and that he depended upon the operation of the pulleys, cords, and hooks for drawing out the candles from the moulds. Now, I consider the operation of these short, sliding tip moulds does not embody the operation of the pistons D D, in combination with the stationary candle moulds, substantially as set forth and described in the Stainthorp patent, because I find it specified in the claim that the combination must be such as to "throw out the candles in a vertical direction, substantially as herein set forth ;" and, on referring to the specification, I find that the operation of said combination is to eject the candles from the moulds, and to throw them entirely out of the moulds. This operation of ejecting the candles from the moulds is an effect which cannot be produced by the short, sliding tip moulds in the Whitfield models and experimental machines, and therefore, in my opinion, the combination of the first claim of the Stainthorp patent embodies a new mode of operation, as respects the Whitfield machine, which depends upon two devices for getting the candles out of the moulds—one for loosening, the other for pulling—both of which devices are independent of each other, substantially different from each other, and in the operation of the machine are operated successively, that is, one after the other, by the operator.

(All that part of the answer which does not relate specifically to the combination called for by the question is objected to by defendant's counsel as not responsive to the question ; 2d, as volunteer
421 testimony ; 3d, as the witness has no knowledge that the Whitfield candle machine referred to was an "experimental

machine," and has no right to give testimony on that subject; and 4th, all that part of the answer which relates to the testimony of the Whitfields is objected to, because their testimony referred to being in good English, the court will not require the aid of an expert or interpreter to understand it.)

Q. 8. Have you read, and do you understand, the contents of defendant's exhibit D, purporting to be a copy of the Morgan & Gaskell patent No. 14186?

A. I have read the same, and believe I do understand the contents thereof.

Q. 9. State whether you find therein described, or made known, the combination specified in the first claim of said patent to John Stainthorp, and give your reasons for any conclusion you may come to.

(Question objected to by defendant's counsel, and all of the objections to the last questions above are now here interposed.)

A. I do not find in said patent to Morgan & Gaskell described or made known the combination specified in the first claim of the Stainthorp patent, or substantially such combination; neither do I find any organized combination set forth or described in said patent that will perform the functions of the combination specified in the first claim of the Stainthorp patent. The said Morgan & Gaskell patent consists of a description of three improvements adapted to the manufacture of candles. First, of improvements in the nozzles of the moulds used in the manufacture of candles. This improvement is described and shown to consist in the adaptation of a piece of rubber or other elastic material to the movable nozzle by means of a tongue or hinged piece let into said nozzle in such manner that when the nozzle is in the small end of the mould, the tongue compresses the rubber by the action of the sides of the moulds so as to press upon the candle wick in the nozzle, and hold it tight, and also to prevent the escape of melted material. It is stated in said patent that this part of the invention therein described may be applied to a mould such as is used in the Morgan patent machine; and it is also stated that it will be evident that it may be used in other moulds,
422 which have movable caps or nozzles, but the specification does not describe any other form of mould, or refer to any other machine. The second improvement described in said patent consists in coating the interior surface of the candle moulds with enamel by means of a process said to be patented by Timothy Kendrick for coating other pipes and tubes. The third branch of the improvements described consists in a kind of double hook-needle stitching or looping machine, for the purpose of making loops at regular intervals in candle wick. None of these described improvements are contained in the combination specified in the first claim of the said Stainthorp patent.

(Defendant's counsel objects to all that part of the answer commencing with "the said Morgan, &c.," and subsequently following such words to the end of the answer: 1st, as not responsive to question; 2d, as wholly immaterial for any of the purposes of this suit; 3d, as tending to mislead and misdirect the court.)

Q. 10. Please explain whether or not there is anything in the Morgan & Gaskell patent respecting the combination in the first claim of said patent to John Stainthorp, and what it purports to contain as a new invention, and its relation to the contents of the Morgan patent, and produce and make exhibits of any models or apparatus which you have and think will cause you to be better understood.

(Defendant's counsel here interposes all of the objections given to the former questions of this examination of the witness, with the additional objection that the witness has been before fully interrogated in this examination, and has fully testified in relation to the subject-matter inquired about.)

A. As stated in my last answer, I find nothing in said Morgan and Gaskell patent respecting the combination specified in the first claim of said Stainthorp patent. What I understand it to describe as new is the application of rubber or elastic material to movable nozzles or candle moulds. The coating of the internal surfaces of candle moulds with enamel, using iron moulds, and the stitching or looping machine for forming loops in candle wick. Of these three improvements specified in the Morgan and Gaskell patent, I understand the two first to be adapted to be used in the Morgan machine.

423 The second, viz., the enamelling of the interior of the moulds, will be readily understood by any one who has ever seen an enamelled iron pot or kettle, or other enamelled article. The first improvement, viz., the application of the India-rubber to the movable nozzle is illustrated by the model I now produce and hand to the examiner, and which I have had made in accordance with the description and drawings of said patent relating to said improvement.

The witness here produces the model referred to, and it is marked by the examiner complainants' "exhibit N, Stainthorp."

Witness continues: The only relation this first improvement of the Morgan and Gaskell patent has to the Morgan machine is, to provide a means of holding the wick tight in the movable nozzle, as well as to prevent the escape of melted material through said nozzle. In its operation to hold the wick tight in the candle moulds in the Morgan machine, it, no doubt, improved the same, more particularly as the wick was liable to become loose in the journeys the travelling candle moulds in the Morgan machine were compelled to take by railway, and in the transportation by hand from the terminus of one railway to the commencement of the other; and in the operation of up-ending or turning these candle moulds on the turn-table at the terminus of the second railway, and while being moved across on the track from said turn-table, in front of the rammers, the forceps holding the wicks at the other end, not being permanently attached to the mould, and tending, during some of these operations, to pull the wicks or disarrange them to some extent; and the melted material, while being carried in the mould on the first railway, and being removed with the moulds therefrom, and set in a place to cool, being apt to leak through the movable nozzles, by reason of the jar attending its transportation; I see no other relation than I have described

in the Morgan and Gaskell patent, or the improvements specified therein, to the original Morgan patent, as shown by defendant's exhibit B.

424 (Defendant's counsel objects to all that part of the answer commencing, after the production and introduction of the model by the witness, on the ground, 1st, as not responsive to the question; 2d, as wholly immaterial for any of the purposes of this suit; and 3d, as volunteer statements of immaterial matter by the witness; and 4th, the Morgan and Gaskell patent and the Morgan patent referred to are not on trial in this court as to any infringement of either of these patents upon the other; and 5th, as a bank of fog intended to mislead the court.)

Q. Look at defendant's exhibit L, marked Morgan & Gaskell's patent, and state whether it represents any of the improvements contained in the Morgan & Gaskell patent and what it does represent.

A. It does not represent any of the improvements contained in the Morgan & Gaskell patent, or substantially any of said improvements, neither does it show a vestige of such improvements. It does show the form of candle mould and movable nozzle substantially as described in the Morgan patent, defendant's exhibit B.

Q. 12. Look at defendant's exhibit P, now shown you, and state what the drawings thereon represent, and whether they represent any of the improvements set forth in the Morgan & Gaskell patent, and whether they are adapted to illustrate stationary moulds more than any others.

A. I have examined the said drawings; they represent detached views of various devices, being detached views of the cylindrical parts of candle moulds, also detached views of pistons formed at their ends into the moulds for the tips of candles, also two detached views of the Morgan sliding nozzles, one of them showing the outside, and the other the inside of the same, also two detached views of a tube, one of them showing the outside, and the other the inside of the tubes. What those two views of a tube represent, as respects candle machinery, I don't know; two forms of detached pistons, with tip moulds at their upper ends, are represented, one by the drawings at the top of the page, and the other by drawings at the bottom of the page; the only difference I observe between them is, that one is jointed and the other is not. There is no improvement set forth and described in the Morgan & Gaskell

425 patent represented in said drawings; the drawings in the middle of said patent represent the Morgan form of the devices shown, except the tubes marked C, which, if intended for detached views of rammers, do not represent the catch and releasing interior mechanism. The drawings are mere detached views of different devices, and do not convey to my mind any idea of either fixity or mobility of the various parts. If the parts, as represented, were laid upon a table, they would be liable to roll off if the table were not perfectly level, or most of them would. The drawings are obviously not calculated to represent anything as stationary in its mode of operation.

Adjourned to 10 a. m., the 14th inst.

THURSDAY, *January* 14, 1864.

Counsel on both sides present.

Q. 13. Do you understand the construction and operation of the candle-making machinery described in the following description from the Journal of the Franklin Institute, of Philadelphia, new series, published in 1831, on pages 176, 177, 334, and 335, viz:

"9. For making mould candles by means of a machine for supplying and cutting the wicks, and drawing the candles from the moulds, which he calls 'the candle drawer and endless wick nipper;' Thomas Hewitt, jr., city of Philadelphia, Pennsylvania, May 4. The moulds are to be fixed in a mould bench in the usual way, with their smaller ends downwards. The mould bench is placed between two uprights forming a part of the machine. The moulds must be securely fixed, as the candles are to be drawn without removing them. Below the moulds there are spools or balls of yarn, formed of the wick of the size desired; one of these is to be drawn through each mould, and passed out above it; the wicks are all confined to strips called nippers, which extend from post to post, the whole length of the mould bench. These nippers hold the wicks exactly over the centres of the moulds, and stand at a sufficient height above the tops of the moulds
426 to allow of the pouring of the tallow. The ends of the nippers rest upon racks which rise vertically within the posts, and after the tallow has been poured and has set, a crank is turned, which, operating upon pinions, raises the racks and draws the candles from the moulds. As this is done, the wick is at the same time drawn into each mould, ready for a new set of candles. A sufficient length of wick is allowed above the moulds to attach other nippers, after which the wicks are cut off above these last nippers, the candles first drawn removed out of the way, the racks lowered, and the whole operation repeated. Some modifications of this apparatus is described, and a claim is made to the machinery in general."

"§ 26. For an improvement in candle moulds, called the sliding mandrel candle mould; Thomas Hewitt, city of Philadelphia, June 13. We formerly described a candle-moulding machine invented by the present patentee, and the machine now patented does not essentially differ from that alluded to, excepting in one particular, which is specifically claimed. The lower ends of the moulds are to be left open the full size of the tube; into each of these openings a cylindrical mandrel, or plug, is fitted, which will slide easily within the mould, and is perforated so as to allow the wick to pass through it. These mandrels or plugs are fitted to a rail below the moulds, one of them passing into each rail and forming its end. When the tallow has been poured, and has set, the rail is raised, or the moulds lowered by means of a rack, which causes the mandrels to force the candles sufficiently from the moulds to allow them to be readily drawn."

A. I do understand what is described in the said description, as the candle machine of Thomas Hewitt, jr., of Philadelphia, and the improvement thereon, and I believe I understand the operation of the same.

Q. 14. Please state whether you find therein described, or made known, the combination specified in the first claim of said pa-
427 tent to John Stainthorp, and give your reasons for any conclusions you may come to.

A. I do not find in said described machine and improvement the combination specfied in the first claim of the said patent to Stainthorp, of stationary candle moulds, and piston to throw out the candles from the moulds in a vertical direction. As I understand the machine of Hewitt, described in the question, and the improvement thereon, it consists of vertical stationary candle moulds, combined with nippers or clamps, so arranged as to hold the wicks in the centre of the moulds while being poured, by grasping or clamping the wick itself; and the nippers also, so arranged as to be raised up by racks and pinions, that after the candles are loosened in the moulds the candles are drawn out of the moulds by means of the nippers. In the first Hewitt machine, as described in the description, the tips of the candle moulds formed a part of the candle mould, being in one piece with the same; but in the improvement, as described, the lower ends of the moulds are left open the full size of the tube, and into each of these tubes a cylindrical mandrel or plug is fitted, which will slide easily within the mould, and is perforated so as to allow the wick to pass through it. These mandrels or plugs, with holes through them, are described to be connected with mechanism for lifting them, and the operation of said plugs is said to force the candles sufficiently from the moulds to allow them to be readily drawn. And it is also said, in reference to this improvement of plugs, that the rest of the machine, as improved, does not essentially differ from the first or original machine. The description does not state whether the plugs contained a mould for the tip of the candle; but assuming that it did, for the purpose of considering it as a description of an operative machine for the purpose of making merchantable candles, (which it would not make without moulds for the tip.) the only purpose or effect of the sliding plugs is to loosen the candle from its adhesion to the mould. The operation of discharging the candles from the moulds in said machine, as improved, is performed by pulling them out from above by means of the nippers which pull out the candles by the wicks. The plugs, in loosening the candles from their adhesion to the moulds, perform an equivalent operation to popping. Now I consider that inasmuch as the operation of discharging the candles from the moulds is performed by a lifting apparatus above the moulds, which takes hold of the wick to draw out the can-
428 dles, neither the mechanism of the Stainthorp combination of the first claim, nor its mode of operation, is embodied in said Hewitt machine and, improvement; but, on the contrary, a mechanism and mode of operation is substantially different. In the Stainthorp machine the candles are ejected from the moulds in a vertical direction by the use of pistons, pushing upwards from below the candle, instead of being pulled out by the wick from above. The combination of the first claim of said Stainthorp patent, therefore, in my opinion, embodies a new mode of operation as respects the Hewitt machine, assuming the Hewitt machine to have tip moulds in the

plugs, so as to make it a practical machine. By means of the said combination of stationary candle moulds and pistons formed at their upper ends into tip moulds, as described in said Stainthorp patent, the candles are both loosened and ejected from the moulds in a vertical direction, the latter of which operations is not possible in the said described Hewitt machine and improvement, and not designed, so far as I can gather from the description, but a substantially different mode of operation is designed and provided for in the mechanism of lifting nippers for lifting the candles by the wicks above.

Q. 15. Look at exhibit E, Stainthorp, now shown you, and state whether it is substantially the same as the machine described in the patent to said Stainthorp, dated March 6, 1855, and the Patent Office models, complainants' exhibit A, and defendant's exhibit K, and give your reasons for any conclusions you may come to.

Objected to as not being within the proper limits of rebutting evidence, and as being introduced at too late a day.

A. I have examined said model, "exhibit E, Stainthorp," and find that it is substantially the same in construction and mode of operation as the machine described in said Stainthorp patent, and illustrated in the representative models, plaintiffs' exhibit A and defendant's exhibit K. I find in said machine stationary candle moulds in combination with pistons formed at their upper ends into moulds for the tips of the candles, so organized as to throw out or eject the candles from the moulds in a vertical direction. I find that the means whereby the pistons are lifted is a lifting board with which the pistons are
429 connected both in the said exhibit E and in the patent, and also in the Patent Office model. In exhibit E the lifting board is lifted by a rack and pinion; in the patent, by means of a lever, pulleys, and treadle. These differences I do not consider material; they are common, exchangable mechanical powers for lifting anything. I find in exhibit E racks placed above the candle moulds and over the same, for the purpose of receiving and holding the candles ejected from the moulds. These racks perform two functions in the operation of making candles by this machine. One is to receive and hold the candles as they are thrown out from the moulds; the other to so hold the candle as to centre the wick for the succeeding candle, and hold it in a central position in the candle mould until the melted material of the succeeding candle is hardened. I find that both of these functions are performed by the racks described and shown in the patent, and illustrated by the representative Patent Office models, in substantially the same manner, and by substantially the same combination of devices. In the racks in the patent, and in the Patent Office models, are holes directly over the candle moulds, into which the candles are lifted by the pistons. This is also the case in the racks in exhibit E. In the racks in the patent and Patent Office models the candles are prevented from slipping down by means of a bar hinged to the rack, which, when closed, obstructs the passage of the candle downwards, and supports the candle in the rack—the candle resting on the bar, a portion of the shoulder or tip part of the candle being in contact with the bar. In the racks in exhibit E I also find the downward passage of the candle obstructed in the rack by a bar, upon which the candles

rest, supported by said bar, a portion of the shoulder or tip of the candle resting on said bar. And I find also that the said bar opens or obstructs the passage in the racks, by being opened or closed; the piece to which the bar is attached being hinged to the rest of the rack. Now, these hinges by which the bar hinges with the rest of the rack, so as to open and close, are differently placed in exhibit E, from their place in the Stainthorp patent, and in the racks on the Patent Office models; but I do not consider the change substan-
430 tial or material, because in both cases the bar swings in on a hinge to obstruct the downward passage of the candles. In the racks in exhibit E the bar does not come in contact with so large a portion of the tip or shoulder of the candle as in the patent. I do not regard this as material, because the bar in exhibit E sufficiently obstructs the passage to prevent the candle from dropping down, and affords a sufficient support for the candle. The bar in the racks, exhibit E, is straight, and in the patent and Patent Office models is notched or grooved at the parts which support the candle. I do not regard this difference as material or substantial, because the grooving or notching of the bars, to a greater or less extent, depends upon the extent of surface of the tip or shoulder of the candle to be brought in contact with the bar for the purpose of supporting it; and I find that in practice it is only necessary to obstruct a small portion of the passage, or to support by the tip bar a small portion of the shoulder or tip of the candle, to hold the candles in the rack and centre the wicks. The tip bars in exhibit E are covered with India-rubber at the place whereon the candles rest. In the patent I do not find such covering. I do not regard this difference as substantial or material; it is a mere substitution of material—one of those expedients that all mechanics are accustomed to use when one material is found to be a little better adapted than another for the construction of any particular part of a machine. I find in the exhibit E that the racks are loose, so as to be lifted from the machine in the Patent Office models, and in the patent they are hinged to the machine. This difference I do not regard as material, so far as regards the making of candles in said machine. It probably is more convenient to have the racks loose, so as to convey the candles in them to some place of deposit, instead of bringing a trough to the racks to receive the candles. I consider this one of the variations of construction and use of machinery which grow out of the practical use of newly invented machinery, and seem to be brought about by its practical use and operation. I find in exhibit E that two racks are hinged together, and mechanism is used for opening and closing the racks, so as to let in and secure the candles in both racks at one operation. I
431 find this mechanism for opening and closing two racks at once to be an addition to the machinery described in the said Stainthorp patent; but I do not consider that it changes substantially the machine as a whole—it is only a mechanical device for saving the labor of closing two racks at one time, instead of one at a time. So far as the operation of the machine in making candles is concerned, the machine represented by exhibit E, as a whole, is substantially the same, in my opinion, as the machine described in the patent, and il-

lustrated in the Patent Office models, although, as I have stated, some of the parts differ in form.

Cross-examined by John B. Gale, esq., counsel for defendant:

Cross-q. 16. State whether or not, in your examination of the Morgan patent referred to on your direct, you find a series of candle moulds described therein.

A. Yes, I find a series of candle moulds combined in one stand, and a series of such stands containing a number or series of candle moulds.

Cross-q. 17. State whether or not you find in that patent candle moulds for the purpose of forming the tips of candles.

A. I find tip moulds in that patent, although not specially described; but the general language of the description conveys to my mind the idea that the sliding nozzle or end pieces were to be formed in the interior like that part of the candle mould for which they were substituted; the description is very general, but still I think it may be assumed from the description that moulds for the tips of the candles were designed to be used. The drawings are very imperfect, not being shaded, or having any dotted lines, or showing any section views of the sliding piece substituted for the tip end of the candle moulds; and I can derive nothing from them respecting the subject of the inquiry. All the specification states is, that the candle is formed in the usual manner; but, as I said before, it does not describe that the sliding pieces have moulds for the tips, or show such moulds in the drawings, leaving it as a mere matter of inference that perhaps
432 might not be warranted by the statement I have mentioned.

Cross-q. 18. State whether or not you find in that patent candle-tip moulds in combination with candle moulds.

A. I find the sliding nozzles, which I have assumed to contain tip moulds in my previous answer, in combination with candle moulds.

Cross-q. 19. Do you find in complainants' exhibit M, or model of the Morgan machine, a combination such as is called for by the last question?

A. Yes; I find the combination specified in said question.

Cross-q. 20. What is the function of the pistons in the Hewitt machine, about which you have been examined, considered independently of any succeeding operations of said machine?

A. As described, it has several functions: one, to prevent the escape of melted material from the open ends of the tubes by plugging them up. Another, to hold the wicks in the centre of the moulds by the holes in the plugs, and to permit the passage of the wick through said holes when the candles are lifted by the nippers above. Another, to loosen the candles from their adhesion to the moulds preparatory to their being drawn out by the nippers.

Cross-q. 21. Is it not necessary that the Hewitt machine should have, for the purpose of making merchantable candles, the upper ends of the plugs formed into tip moulds?

A. Yes; if it is designed to use it for making merchantable candles, such alteration in the Hewitt machine as described in the question must be made. By the Hewitt machine I mean, of course, the machine and improvements thereon described to me in a question on my

direct examination, which is the only information I possess respecting the Hewitt machine.

Cross-q. 22. Do you not understand the Hewitt description as a description of a machine designed to be used for making merchantable candles?

A. No; I suppose it might have been intended for such a description, but it fails, because moulds for the tips of the candles are not described, and the descriptive matter in the second description which contains the description of the plugs does not contain anything which, to my mind, suggests it.

433 Cross-q. 23. Have you any doubt that it was intended for such a description?

A. Yes, for the reason that nothing appears in said description that either suggests it or speaks of it. I have no means of judging what the person who wrote or published the description had in his mind, as respects having a mould for the tip of the candle in the plug. The description describes the plugs as cylindrical mandrels or plugs fitted to slide easily within the moulds having holes through them. Now, cylindrical mandrels, with holes through them, are common devices in various machines, but I never knew of one having a tip mould for a candle in other machines than candle machinery. To assume that a tip mould was intended by that description, it purporting to be a description of a new device not before known in candle machines, would be to assume something not contained in or warranted by the description.

Cross-q. 24. Would tip moulds for candles in cylindrical mandrels be appropriate in other machines than candle machines?

A. Obviously they would not.

Cross-q. 25. Then why, in your 23d answer, did you mention mandrels used in other machines than candle machines in connexion with your answer to the 23d question?

A. Because "cylindrical mandrels" is a descriptive phrase well known to machinists as describing a general form of device used in various machines.

Cross-q. 26. Does the phrase "cylindrical mandrels" imply any definite form where such mandrels come in contact with the substance to be acted upon?

A. Yes, unless qualified by description of some especial form. For instance, a cylindrical mandrel with a hole in it, and fitted to slide in a surrounding cylinder, would definitely express a straight round bar cut off square at the ends, and with a hole bored through it in the direction of its length. If either end is to be adapted to any special purpose, and a change of form varying from such construction were necessary, such change of form must be, to be understood,

434 especially described; as, for instance, a screw may be cut upon it, or cut in it, or a recess of some form may be made in it proper to receive and hold a tube.

Cross-q. 27. Do you not understand that the Hewitt description contemplated that the lower portion of the melted substance should come in contact with and be shaped by the upper ends of the plugs mentioned?

A. The description describes no device intervening between the plugs and the melted material. A description can hardly be considered as contemplating anything. It is a mere assemblage of words, which convey ideas properly derived from the meaning of the words. It is not a human mind, and cannot be considered, in my opinion, to contemplate anything, or to express anything beyond the meaning of the words.

Cross-q. 28. Are not such expressions as the design or purpose of a book or printed article commonly used expressions?

A. Yes.

Cross-q. 29. Are they not used by good writers and speakers?

A. Yes.

Cross-q. 30. Do not such expressions convey to your mind a definite meaning?

A. Yes.

Cross-q. 31. When, in the cross 27th question, I used the words "description contemplated," did you not understand me just as you would if I had used the words the writer of that description contemplated?

A. No.

Cross-q. 32. In what respect did you understand me differently?

A. I understand you to mean just what you said, for the reason that what the writer of that description might have contemplated did not seem to me to have anything to do with what the description actually described, and was not a thing in my power to testify about.

Cross-q. 33. Do you not understand that the Hewitt machine was intended to describe a machine for making candles having tips?

A. I have no means of knowing or understanding what the
435 author of that description did intend to describe beyond the description itself, and that, as I have before said, does not describe a machine with plugs in it that will make candles with tips to them. I will further state that I have myself made and used candles without tips and with square ends, such as would be made in such a machine as described with the plugs.

Cross-q. 34. Could candles with square ends be moulded in cylindrical tubes?

A. Yes; as I used the expression in my last answer, I meant cylindrical candles without tips or points, or recesses in their ends, just as a blacksmith would mean if he told any one to cut the end of a round bar square off.

Cross-q. 35. Please state what the word "candle" is, and, according to your understanding, has been, for thirty years last past popularly used to signify?

A. In a general sense, a cylinder of some kind of fatty matter, with a wick in it, which, when lighted, is supplied with material for combustion by the surrounding fatty matter.

Cross-q. 36. If that word is and has been popularly used to convey any further idea of shape or form, please state what.

A. I think not in a general sense; I have a candle here which I will produce and make an exhibit of if requested. Candles, as they

are made by manufacturers, have a point or tip to them, and are not considered merchantable, as I understand it, in the market without such tip. But it is a very common practice to cut such candles in two, and make two candles out of one candle, when, of course, one of those candles is not apt to have a tip. But this is done by users of candles, and not by the manufacturer or seller.

Cross-q. 37. Has the candle which you have just offered to make an exhibit of apparently been lighted, and in part consumed?

A. It has been lighted, and apparently a part consumed, but what remains is still a candle.

Cross-q. 38. If you were to see a notice stating generally that a new machine had been patented for making candles, would you thereby infer that such machine was for making marketable candles having tips?

436 A. Not necessarily; it might be for some new kind of candle, or adapted to a new form of candle; my experience of the great variety of ideas embodied by inventors in new machines is such that I would not infer that the machine was intended for making ordinary candles, unless the notice so stated. I recollect of machines described for making a continuous candle by squeezing out materials and wick through a die, very much as one would squeeze out pipe.

Cross-q. 39. In such case would you be equally at a loss to infer whether it was for making candles of cylindrical or some other form?

A. Perhaps not quite; a candle will burn without a tip, but no one but a person entirely unacquainted with the manner in which a candle burns would make a square candle.

Cross-q. 40. Suppose, in reading a description of such new candle machine, apparently intended as a full description thereof, you should not find anything therein to indicate that the machine was designed to manufacture candles of any different shape from that of cylindrical candles having tips, would you not infer that the candles which such machine was designed to make were cylindrical candles having tips?

A. No, not from the description, providing the description, which purported to be a full description of the machine, did not describe the machine capable of making candles with tips. I would infer from the description that the machine described was designed by whoever constructed it (or if it never was constructed except hypothetically in the description) to make just such candles as the machine described would make if constructed according to the description, provided always the description was of a working machine. I may as well state here, in the hope of being finally understood, that a general description of the purpose for which a machine is to be used does not to my mind convey either a general or particular description of the machine to be used; and in looking at descriptions of old machines in my practice as an expert, I do not feel at liberty to look at them with the light of subsequent inventions and improvements, but am constrained to confine the description to its terms, and not include what is not described, but might seem necessary to convert the

437 machine into a practical machine, or into a machine for making some desire merchantable form of the article produced by the machine.

Cross-q. 41. State whether you infer from the Hewitt description, taken in connexion with the actual or supposed fact, that at that time only candles having tips were merchantable candles, anything whatever as to the shape of the candles at their smaller ends, which the described machine was designed to make.

A. I have stated several times, in substance, that I find nothing in the description of the plug machine respecting the shape of the candle ends to be made by it. I know that the end of the candle would take whatever form the plug gave it, but there is nothing whatever stated as respects the form of the end of the plug. I cannot infer from the description of the plug machine any especial form from the mere fact that only candles having tips were merchantable; the best inference that I can draw as to what kind of candles will be produced by a mould of any kind is from the form of a mould; but when any one tells me that the tip end of a common candle mould is to be cut off, and a cylindrical mandrel or a plug stuck into it or fitted into it, I should suppose, from such description, that the mandrel or plug would be square at the end, or, to be more precise, the plane of the end surface would be perpendicular to the plane of the axis to the end of the plug. If intended to be different, it would be easy to say the plug should have a mould in it for the tip of the candle. I suppose a sensible person making a machine to use would naturally put a mould for the tip in the plug, if he wanted to have tips on his candles; but if he did do this he would do something not described in such description, but from his own sense of what was proper or adapted to produce the article desired.

Cross-q. 42. How do you think a candle manufacturer having only ordinary skill and acquainted with the fact that only candles having tips were marketable, and desiring to manufacture such candles, and having in use such a candle machine as is described in the first branch of the Hewitt description, and desiring to substitute mandrels or plugs in place of the tips of the moulds merely for performing the new function of starting the candles upward from below, if such
438 manufacturer had common sense, would have, in the year 1853, found the upper ends of such mandrels or plugs?

A. I can't tell what a candle-maker would do; but suppose he was a good mechanic or machinist, accustomed to constructing machines, and acquainted with the operation of making candles, I suppose he would make the mould, however it was constructed, of the form required to cast the desired form of the article, and therefore would naturally make the mould for the tip of the candle in the sliding part if he wanted tips on his candles; but as there is no knowing what people will do when they start to get up a new machine or an improvement on a machine, he might first try an ordinary wooden plug adapted to slide up and down a little in the candle mould, and for some reason—say, for instance, defect in construction, or the mechanical organization to operate it—not get a satisfactory result as respects the operation of loosening the candle from the mould, and abandon the thing without going so far as to make a metal plug with a hole in it, or a mould in it. I answer this question under the assumption that

he starts without knowledge that a movable tip mould has been before constructed and used.

Cross-q. 43. If a machinist and candle manufacturer of ordinary skill and capacity only had desired, in 1853, to construct a candle machine for manufacturing marketable candles with tips, in all other respects in accordance with the Hewitt description or the Morgan patent—that is, except as to the form of the upper end of the plug or movable nozzle—would he not naturally, in your judgment, have formed the upper end of the Hewitt plug, or the movable nozzle, into a tip mould, assuming that he had read both such description and patent?

A. I think he would probably have made a mould for the tip of the candle if he had read the Morgan description and wanted to make a machine that would make tips to the candles, but I do not wish to be understood as saying that I think he would have got it merely from reading the Hewitt description.

Cross-q. 44. Assuming now that the Hewitt plug had been intended to be flat at its upper end, and therefore adapted for forming the candle without a tip thereto, think you that a machinist and
439 candle machine manufacturer of ordinary skill and capacity, desiring to adapt a machine constructed according to the Hewitt description to the making of candles with tips, would have been, in 1853, competent to do so without any knowledge of the Morgan description or machine?

A. Before the manufacturer or other person, irrespective of his skill or capacity, could have desired to adapt a machine constructed as described in the question to the making of candles with tips, he must have conceived of the possibility, or at all events had an idea, that a tip could be moulded in a mould separate from the cylindrical part of the candle mould, so as to present a merchantable appearance. Now it does not, in my opinion, by any means follow that because the candle-maker or mechanic is acquainted with the fact that a flat-ended candle can be moulded by a plug machine, he will necessarily infer that the delicate curved tip can be successfully moulded in a mould in the plug, and so joined with the candle as not to mar the general harmony of the surface. But having conceived the idea that it could be moulded by such means, he would have invented the means of so moulding it in separate moulds as distinguished from a mould in one piece, and having made the invention, and designing to reduce it to practice, he would, of course, make the thing he conceived of. The question involves the determination of what constitutes invention. If to invent a thing is to make something new and useful in means for making candles or anything else, it requires more than ordinary skill of a mechanic—in fact, mechanical skill has very little to do with it; and it requires, in my judgment, the exercise of creative or inventive power to produce the difference described in the question between flat-ended pistons and pistons with moulds for the tips. It may be a low order of invention, but still I do not consider it the following a description and carrying it out with ordinary mechanical skill.

Defendant's counsel objects to so much of the answer as relates to

any invention involved in a desire for the adaptation mentioned in the question, because such parts of the answers are not responsive to the question; the question itself assuming such desire as already existing.

440 Cross-q. 45. Assuming that the Hewitt plug was designed to be flat at its upper end, and that machines built according to the Hewitt description were in operation before the Morgan patent, and that flat-ended candles only were then in use, and that such candles were then superseded by tipped candles so as to become unmarketable, think you that a machinist and candle-maker of only ordinary skill and capacity would at that time have naturally supposed that such plug could be adapted to the manufacture of tipped candles merely by forming the end thereof in conformity with the shape of such newly-desired tipped candles?

A. I think he might have supposed so for a moment, and the next moment perhaps have supposed that such a thing would not work, because the plug having to push up the candle might crush the tip either by the resistance above, because the candle mould tapers, and would allow the plug a little lateral play the moment it started. He might have hit upon either one these views, or some other reason why it would not do to make tip moulds in the plugs. It is natural for mechanics of ordinary skill to do only what they have before seen done, or are directed to do, and, as far as I know anything about such people, (and my acquaintance is considerable,) to oppose changes in existing machinery.

Cross-q. 46. Please explain why you suppose that any sensible person might think that the plug thus formed would crush the candle tip if such person already knew that the flat-ended plug would raise the candle without marring its end.

A. The idea might present itself to him, that the braided wick was more compressible than the hardened tallow of the tip surrounding it, and that this tallow in some part was almost a film running by a curve up to the body of the candle, and that the tallow being brittle might crack and break there under a pressure sufficient to start the candle. Sensible people do not always have correct ideas of the result of changes, so far as I have had experience. I recollect reading an official report, of a very sensible man, against the trying of expanding projectiles in rifle cannon. He said that the heat occasioned by the discharge would melt the lead and prevent it giving

441 rotation to the projectile; and also, they being long projectiles, instead of spherical, an artillery wagon could not carry so many of them as round balls, and that the guns would have to be made stronger; all of which have proved to be erroneous reasons against the use of expanding projectiles and rifle cannon.

Cross-q. 47. And why do you think such person might anticipate disadvantage from the little lateral play of the plug?

A. He might attach undue importance to it, as allowing the plug to move a little sidewise, as most any cylindrical plug might do if introduced in the end of a taper tube, and suppose it might have the effect to nip off or twist off in some way the candle tip. There is

one thing certain—he could not know the thing would answer until he tried it.

Cross-q. 48. If the Stainthorp piston had heretofore been made and used only for forming straight candle tips, do you think that a candle-maker would naturally suppose that the form of the piston end might readily be adapted to making candle tips with slightly concave or convex sides?

A. If by straight tips you mean conical tips, I don't think the change mentioned in the question would be other than a mere change of form. The tips would be there in either instance.

49. Please answer cross 48 again, and assume that "straight tips" meant "conical tips."

A. I suppose a candle-maker competent to conceive of a change of form in the tip mould of the piston, such as indicated in the question, but I have no doubt he would probably ask some machinist if it could be done. It does not require a high order of intelligence to make candles in a candle machine.

50. Suppose, now, to the conditions of cross 45 it be added that the machinist and candle-maker referred to had known that movable tip moulds were practicable for forming the candle tips and pushing candles out of the moulds; what, then, do you think such person would naturally have supposed about the practicability of adopting the Hewitt plugs to the moulding of tipped moulds, in connexion
442 with the other parts of the original machine, as described in the Hewitt description?

A. If, by the phrase "pushing the candles out of the moulds" in the question, you merely mean pushing the upper end out a little to start the candle, I have no doubt a candle maker and machinist acquainted with candle-making might by adding his knowledge to the Hewitt description, make a practical machine for making candles, which would embody both the Hewitt description and his knowledge that movable candle tips could be used; but if you mean that his knowledge was of a device that would throw the candles entirely out of the moulds, he would have to change that device in some way to adapt it to the Hewitt machine, or else he would be using a device more than sufficient to perform the function of relieving the candles sufficiently from the moulds to allow them to be readily drawn. As I understood the Hewitt machine from the description, the plugs had a very limited range of motion; and I cannot assume that the organization of the machine described is such as to take in movable tip moulds and pistons of sufficient length to throw over the candles from the moulds.

51. Laying out of view the direction of motion, what function does the Stainthorp piston perform after the candle is moulded and ready for removal independently of any device above the moulds?

A. It ejects the candle from the mould.

52. What is the function of the rammer and nozzle described in the Morgan patent after they are placed in contact?

A. To drive out the candle from the mould.

53. While such rammer and nozzle are thrown in contact and per-

forming that function, do they form a piston with a tip mould at one end thereof?

A. Yes, and something more; they form, besides a piston, a mechanism capable of being attached or released, the rammer having in it an interior rammer or plunger, which acts upon a spring-catch attached to the interior of the rammer, and which is inseparable from its organization as a Morgan rammer.

443 Cross-q. 54. Assuming the upper ends of the Hewitt and Stainthorp pistons to be alike in form, do you understand that there would be any advantage in having the length and travel of such piston sufficient to raise the candle entirely out of the mould without some practical device for guiding the candle in its upward motion and holding it over the mould during the subsequent moulding?

A. Yes.

Cross-q. 55. What?

A. First, in making short candles, such as are ordinarily given out now-days around the country at hotels for bed-room lights, and such as were furnished at the Metropolitan Hotel, in the city of New York, to the defendant's counsel in this case, to light the table where a recent examination in this case was held there, the candles would not need guides to prevent them falling over, but could be taken from the tip moulds of the pistons, and the wicks secured in the old-fashioned way over the centre of the moulds, and the pistons drawn down again into their place, the moulds being discharged and re-wicked ready for another filling of melted material. Second, having secured the discharge of the candle from the mould by the pistons, the way is opened for the successful use and operation of any proper device for receiving and holding the candle in such manner that the discharged candle shall centre the wick for the succeeding candle. The mere fact that one distinct improvement in a machine has made way for the invention or practical use of a subsequent distinct improvement in said machine, or a prior distinct improvement in such machines, does not, in my opinion, detract from its utility or merit. No one having seen the friction feed of a sewing machine would use a sewing machine without it, but it could not be said that there was no practical advantage in the Howe needle and shuttle-sewing mechanism combination, because its profitable use is largely extended by Wheeler's friction feed.

Defendant's counsel objects to all the answer after "succeeding candle," as not responsive.

444 Cross-q. 56. In thus making such short candles as you have referred to, would it not be required or expedient to take hold of the candle before its complete discharge from the mould?

A. I think it would not be necessary in the Stainthorp machine; one might do it if they liked; I should prefer to wait until the candles were entirely out of the moulds, because I should not run the risk of hitting the tip against the edges of the moulds.

Cross-q. 57. In such case would you allow them to fall down as they were pushed out of the moulds?

A. Not if I could help it.

Cross-q. 58. Would they not thus fall and endanger marring them and breaking their tips, if there were no device or means used for guiding them and sustaining them, as supposed?

A. Anything will fallif there is no device for sustaining it; but in the case of the short candles there would be a device that would sustain them, viz., the piston.

Cross-q. 59. How long a candle do you think would be thus sustained?

A. One of three inches from the but to the shoulder; perhaps a longer one.

Adjourned to the 15th inst., at 10 a. m.

445 FRIDAY, *January 15th*, 1864.

Counsel on both sides present.

Cross-q. 60. In operating the Stainthorp or Humiston machine, or any machine substantially like either one, and as regards the mere change of place of the candles from their position within the moulds, to a position immediately above the moulds, do you regard different well-known mechanical devices for effecting such change of position as being, with respect to such change independently considered, only common exchangeable mechanical powers or devices?

A. If by the term mechanical devices in the question, you refer to the lever, pulley, or racks and pinions, used for lifting the platform to which the pistons are attached, I do consider them common exchangeable mechanical powers or devices in these machines. The only purpose or effect they have is to lift the platform, and so long as it is lifted properly there is no change in the function or operations of the operative devices of the machine which are connected with the platform.

Cross-q. 61. With respect merely to the mere change of position of the candles, just referred to, would lowering the mould frame, while the pistons remained stationary, be equivalent to raising the pistons while the mould frame was stationary in any such machine as was referred to in the last question?

A. I understand the question to assume an organization of vertical candle moulds, with pistons combined therewith, to throw out the candles in a vertical direction, as in the Stainthorp machine, and no other movement of the moulds, with respect to the pistons, such as removing them from their combination with the rest of the machine which contains the mechanism for discharging the candles. The mode of operation assumed in the question would be absurd and ridiculous in my judgment; it would be in effect to attach the platform of the machine to legs, and then to move the rest of the machine, except the pistons, up and down by some power. Now, in
446 such case the machine would be the same; its organization would be the same; it would receive the tallow, cast it into candles, and eject the candles in a vertical direction from the moulds without moving any part of the machine from its position on the floor of the room; it would be very much like taking a coffee-mill,

and attaching the crank to a post and grinding the coffee by turning round the mill, keeping the hopper up straight to prevent the coffee falling out, or, like lowering a building to get down a bale of goods from an upper story, or raising a cellar for the purpose of getting out a part of its contents readily on the sidewalk. In the case supposed, the pistons and candle moulds would always be in co-operative combination, and the moulds would always be stationary with respect to the pistons, in the sense that they are stationary with respect to the pistons in the usual mode of working the machine. I mean that, in my judgment, the moulds in the Stainthorp machine do not lose their character as stationary candle moulds in the combination of stationary moulds and pistons by being hoisted up and down, or carted about, so long as they are in the combination, so as to be capable of being used as the combination is intended to be used.

Defendant's counsel objects to the entire answer as uncalled for.

Cross-q. 62. If it were desirable, could you not consume the rest of the day in such illustrations as you gave in your last answer?

A. Yes, if I thought they were necessary to illustrate my meaning when expressing opinions upon hypothetical questions, such as the last; there is no end to the illustrations that could be brought to make my meaning clear.

Cross q. 63. Is it your business, or any considerable part thereof, to act as an expert in patent cases?

A. Yes; I have so testified, on my direct examination, at the beginning of this case; also when subpœnaed by the defendants upon my direct examination by their counsel; this is the third time I have been asked that question.

Defendant's counsel objects to all of answer after "yes," as uncalled for.

Cross-q. 64. Have you been retained, and are you still em-
447 ployed, as such expert on complainants' behalf to advise and testify in this case?

A. I have received no retainer fee in this case, and expect none. I am paid for my time consumed in this case in testifying and in attending the examination of witnesses, and in consultation with counsel. I have no general retainer from the complainants in this case; am in no way bound to their interests by fees or expectation of fees. It is my custom and the custom of experts generally, as far as I know, to ask a retainer fee; but in this case the counsel and parties said they could not afford to pay it, and I agreed to waive it.

Cross-q. 65. Then you do not regard your duties to the complainants and their counsel the same, and as obligatory as though you had received your usual retainer?

A. My action would not be affected by the receipt or waiver of the retainer fee in any case. If I agree to devote my time or a portion of it to the investigation of the mechanics of a patent case, and to afford the counsel and parties all the assistance I can from my knowledge and experience in eliciting the mechanical truths of the case, and to testify in their behalf so far as I can conscientiously, I carry

out my agreement irrespective of retainer fee or rate of pay for my time in any case.

F. C. TREADWELL, JR.

Subscribed and sworn to before me, this 15th January, 1864.
R. E. STILWELL, *Examiner, &c.*

448 United States circuit court, northern district of New York.

JOHN STAINTHORP and STEPHEN SEGUINE
agst.
WILLIS HUMISTON.

Depositions taken on the part of complainants for final hearing.
George Gifford, esq., counsel for complainants.
M. P. Norton, esq., for defendant.

JANUARY 14, 1864.

Complainants' counsel calls as a witness—

Samuel P. Kittle, who being duly sworn, deposes and says as follows:

Q. 1. What is your name, age, residence, and occupation, and what have been your opportunities for becoming acquainted with machinery, and especially with candle machinery?

A. Samuel P. Kittle; my age is thirty-nine; I reside in Brooklyn, Long Island; my occupation is mechanician; I have been engaged in mechanical pursuits since I was seventeen years old; have been solicitor of patents or patent agent, and have been examined frequently as an expert in patent cases, and have been connected with candle-mould machinery business in getting up or manufac-
449 turing Stainthorp candle-mould machines and introducing the same from the fall of 1853 until the early part of 1857.

Q. 2. State whether or not you were employed by John Stainthorp to prepare for him specification and caveat of candle-making machinery; and if you were, state about what time you were so employed and what was done by you in relation thereto, detailing particularly what took place concerning the same.

Defendant's counsel objects—1st, as wholly immaterial for any of the purposes of this suit; and 2d, if material, it should have been introduced before the complainants closed their testimony in this case upon their proof; and 3d, as not rebutting testimony.

A. I was employed in the fall of 1853 by John Stainthorp to prepare his caveat describing an invention, then being perfected, of machinery for moulding candles, which caveat was duly filed in the Patent Office, November 18, 1853; before filing said caveat I examined a machine made and being experimented with by said Stainthorp, in the city of Buffalo; the machine was provided with a stand of stationary moulds and piston with tip moulds formed at their upper ends and secured at their lower ends into a board, which was provided with a mechanical device, viz., cords and pulleys and lever,

for raising all of them in a stand, so as to eject the candles from the moulds in a vertical direction. The stand was also provided with racks or clamps, having grooves or holes tapered to correspond with the taper of the candles; these racks were placed in their holes vertically above and over the several candle moulds of the machines and rested on the ends of the vat or trough into which the melted material was deposited in the process of moulding candles; and they were held in position and supported by blocks securely fixed on the top of the stand, vat, or trough, and were made to grasp or clamp the candles when ejected into them by means of a piece of wood pressed down between other blocks on the opposite side of the clamp. From the blocks spoken of previously this piece of wood extended the whole length, or nearly the whole length of the clamp or rack, so as to grasp and hold the candles in the rack by a wedging process, and thus centre the wicks of the candles next to the moulded;
450 subsequent to this time a few days I was shown by said Stainthorp, other racks or clamps having a tip bar as an additional means of holding and centring the candles and wicks; and a few weeks later he showed me a rack and tip bar somewhat different from the last described, and like the one represented in the model filed in the Patent Office, marked in this case "Exhibit A, Stainthorp;" there were several working machines, with racks of the description last spoken of, made and put into operation in Buffalo, in the year 1854, in the factory of Mr. Humes, Messrs. Thayers, and other places, under the direction and supervision of Mr. Stainthorp.

The clamps above first spoken of were found defective in their operation, in that the candles were not so held as to prevent some of them from slipping down when the pistons were lowered.

Q. 3. About how many candle machines substantially like, in construction and operation, complainants' exhibit "A," do you know of having been used in the manufacture of candles, and from what time to what time?

A. During the year 1854, I think, there were in the neighborhood of thirty machines put in operation.

Q. 4. By whom were they put in operation?

A. Mr. Hume's, Mr. Thayer's, and I think some at one Mr. Thompson's, in Buffalo. That I may be understood, I state further, that in the early part of 1855 there were other machines built and put in operation substantially like those last described; and all of the above description of machines that I had ever seen to that time or until the latter part of the year 1855, were made under the direction and according to the plans of John Stainthorp, the party in the suit.

Q. 5. Describe the device for receiving the candles after being ejected from the mould which was employed on the candle machines put in operation at Mr. Hume's and Mr. Thayer's establishment in Buffalo?

Objected to by defendant's counsel, on the ground, 1st, that it is wholly immaterial for any of the purposes of this suit; and if material, it is not rebutting testimony; and 2d, the device used as called for by the question can be better described and proven, if necessary so

to do, by reference to the plaintiff's patent already in suit, if by the question complainants' counsel refers to that device.

451 A. I suppose you mean those spoken of already; those first machines that were put in their factories were substantially like complainants' exhibit A, Stainthorp; some of them, however, had not the wick-clasp on the tip bar.

Q. 6. State about how many candle-making machines you have ever seen in use having no racks and tip bars, like those shown in complainants' exhibit "A, Stainthorp."

A. I should say fifty, at least, and I think more.

Q. 7. Can you give the names of any persons at whose establishment you saw them used?

A. Mr. Hume's, Thayer's, Cowles's, Thompson's factories, in Buffalo, N. Y.

Q. 8. During what years did you see such machines in use at any of those places mentioned in your last answer?

A. During the years 1854, 1855, 1856, 1857, and 1858, at Mr. Hume's factory, in the city of Buffalo; also at Mr. Thayer's, in the years 1854 and 1855.

Q. 9. About how often were you in the establishment of Mr. Hume's, in Buffalo, during these years, and saw machines substantially like exhibit "A" in use?

A. I was frequently in his establishment, more frequently than in any other candle factory, particularly during the years of 1854 and 1855, and not unfrequently during the years 1856 and 1857, and occasionally thereafter during the year 1858 and the early part of 1859, and saw the machines above described in successful operation and producing good and merchantable candles.

Q. 10. During what years, after 1852, did you reside in Buffalo?

A. From 1852 until 1859.

Q. 11. State whether or not you saw the candle machines referred to by you in use at the establishments of Mr. Thayer, Mr. Cowles, and Mr. Thompson; if you did, state what use was being made of them, and how they operated.

A. The first, at Mr. Thompson's, were the experimenting machines, he having succeeded Mr. Stainthorp in his factory; those at Mr. Thayer's were being used for the manufacture of adamantine candles, and performed very successfully; those at Mr. Cowles's were used in the manufacture of tallow candles, and operated suc-

452 cessfully; I think Mr. Stainthorp supplied Mr. Cowles with his machines in the early part of 1855.

Q. 12. Look at the model now shown you, and marked by the examiner, complainant's exhibit "O," Stainthorp, and state what it represents.

Question and exhibit objected to by defendant's counsel, on the ground of not being rebutting evidence; and 2d, the said exhibit is no part of the plaintiff's patent in suit.

A. It represents the first clamp shown me, and used by John Stainthorp, and described in my second answer, and also in the first

caveat filed in Patent Office by Stainthorp prior to the obtaining his patent.

Q. 13. State whether the clamps like the said exhibit were intended to grasp and hold the candles after being ejected from the stationary moulds.

Same objection last noted.

A. They were.

Q. 14. Please state the operation of said clamps, as used in the manufacture of candles.

Same objection last noted.

A. They were to loosely encircle and guide the candle when being ejected from the moulds below, to grasp and hold them in a vertical position above the moulds, so as to centre the wicks for the succeeding set of candles.

Q. 15. Describe the device used for opening these racks, so that the candles could be ejected into them, and for closing the rack after the candle had been so ejected?

Same objection last noted.

A. They are hinged at the top together, so as to admit their being opened or expanded at the bottom; they were sustained in position with their holes vertically over the moulds resting on the vat or machine frame at their ends, and guided by fixed blocks on the inside, or between the two racks or clamps which were used in such machine, which blocks were so located as that when they were compressed or made to clamp the candles by the device on the outside, the tips of the candles so grasped would be held over the centre of the moulds below; the device for clamping consisted in blocks removed from the inner blocks and fixed on the frame or vat, so as to admit of a wedge or bar being thrust down beside the clamp
453 or rack and the last-described blocks, and thus secure the desired pressure upon the candles.

Q. 16. What occasioned some of the candles to drop below the bottom of the clamps, as you have stated?

A. The clamps were imperfectly made, as it was found that if they grasped them by the mechanical device before stated sufficiently tight to prevent the candles slipping down into the moulds, as the pistons were lowered and the wicks strained, that they were liable to mar and injure the candles.

Q. 17. What alteration or change was made in these clamps, to obviate the difficulty spoken of in your last answer?

Same objection last above noted.

A. The clamp was made of one piece, about four inches broad, with holes of uniform size, instead of being tapered, as here shown, and on one side of the clamp was secured a tip bar, which was attached to the clamp by hinges on the side face; these tip bars came below the opposite side of the clamp, and projected out horizontally, and parallel to the top of the mould stand, which tip bar was formed to receive a section of the shoulder of the candle, which shoulder was formed on the candle by the tip mould when the candle was cast; and the candle rested on these tip bars, and the wicks were centred

by aid of them, instead of being clamped as before. Opposite the tip bar, on the end of the clamp, were blocks, to add to the breadth of the clamp at the end, so that when the tip bar was turned over, by means of the hinges, it would stand vertically on the ends of the machine or vat, the same being guided in its proper position over the moulds by fixed blocks for that purpose—the tip bar being held in position when the candles were clamped in the rack by the weight of the rack or clamp, and the candles in it.

Q. 18. State whether or not the clamps were at any time lined with any material; and if so, what, and for what purpose?

Same objection above noted.

A. They were lined in the early part of 1855. That I may be distinctly understood, I will state, that after experimenting
454 with the tip bars, as last stated, and making machines as represented by the model exhibit "A," Stainthorp, and before described in my testimony, Mr. Stainthorp again returned to the clamp, and lined them with heavy muslin, and subsequently with cotton drilling, and afterwards with rubber cloth, and then, and in those experiments, used an eccentric bar, secured by looped rods running through from one side of the clamp to the other, and from one clamp to the other, (for at this time he made a double clamp,) the same being provided with graduating screws, to regulate the pressure upon the candle; this eccentric bar operated the clamps, to open and close the same and grasp the candle, and were somewhat like the clamp now shown me, marked defendant's exhibit "J J," but not provided with the tip bar, as here shown. In some of the clamps last described there were wooden eccentrics, standing vertically at the end of the clamps, connected by a rod running lengthwise, and operated in opening and closing the clamp by a thrust longitudinally of the clamp; these eccentrics were located in one-half of the clamp, and extended through vertically the breadth of the clamp, the other half of the clamp being provided with projecting pieces, leaving holes for the eccentric pins to work in; and these clamps were located and controlled in their proper position, with the several holes vertically over the moulds, by bridges, (as we termed them,) formed of little rods of iron, as secured to the ends of the frame or stands of moulds, or on the ends of the vats. The lining was put in these clamps to prevent marring the candles and to procure an elastic surface.

Defendant's counsel objects to all that part of the answer which does not relate to the lining of the clamp—1st, as not responsive to the question; 2d, as volunteered testimony; 3d, the entire answer is objected to because the subject-matter therein related is no part of the plaintiff's patent in suit, or anywise connected therewith.

Q. 19. Who lined the clamps, as spoken of in your last answer, or by whose direction were they lined?

Same objection as noted to the last question here repeated.

A. Mr. Stainthorp, one of the parties to this suit.

455 Q. 20. Have you read, and do you understand, the contents of defendant's exhibit "B," purporting to be a copy of the patent granted to Joseph Morgan?

A. I have read the same, and I think I understand it.

Q. 21. State what the model now shown you, marked complainant's exhibit M, Stainthorp, represents.

A. It represents a Morgan machine, built in pursuance of the specification exhibit B, with this exception, there is a device, shown in the model under the reservoir for melted material, for raising the mould stand in position for receiving the material from the reservoir into the moulds which I do not find described in exhibit B; neither do I find the same provisions in detail for the discharge of the melted material in the moulds other than these exceptions; I regard this model, exhibit M, as a fair and substantially accurate model of the invention, machinery, and operation, described in exhibit B.

Q. 22. State if you find described in exhibit B, purporting to be a copy of the Morgan patent, the combination specified in the first claim of the patent to John Stainthorp, dated March 6th, 1855?

A. I do not.

Q. 23. Have you examined, and do you understand, the defendant's model marked "Exhibit A A A"?

A. I have, and do understand it.

Q. 24. Do you understand the operation of that exhibit?

A. I do.

Q. 25. State whether there is shown in that exhibit a combination of devices specified in the first claim of said Stainthorp's patent, and you will also please state whether you are familiar with the contents of that patent.

A. I am familiar with the contents of the Stainthorp patent and the invention and machinery therein described; I do not find a combination of such devices.

Q. 26. Have you read and do you understand, the contents of the defendant's "exhibit D," purporting to be a copy of the Morgan and Gaskell patent?

A. I have read, and I think I understand the same.

Q. 27. State whether you find therein described or made known a combination specified in the first claim of said patent to John Stainthorp.

456 A. I do not.

Q. 28. Please state whether or not there is anything in the Morgan and Gaskell patent respecting the combination specified in the first claim of said Stainthorp patent.

A. There is not anything; that I may be understood, I will state that I do not mean to say there is not a candle mould specified of a certain description, or, that there is not a tip mould or nozzle, but I mean to say that there is not anything that is like the mechanical combination as claimed in the Stainthorp patent.

Q. 29. Please look at complainants' "exhibit N, Stainthorp," and state what it represents.

A. The patent nozzle as described in the Morgan and Gaskell patent, marked defendant's exhibit D.

Q. 30. Look at defendant's "exhibit L," marked Morgan and Gas-

kell's patent, and state whether it represents any of the improvements contained in the Morgan and Gaskell patent.

A. It does not as described therein.

Q. 31. Please enumerate briefly the improvements contained in that patent.

A. First, there is an improvement in the nozzle of moulds used for moulding candles; secondly, improvements in moulds for moulding candles; third, it consists of improvements for applying loops to wicks of candles.

Q. 32. Have you read descriptions of the Hewett machine and improvement, contained in the eighth volume, new series, of the Journal of the Franklin Institute, published in Philadelphia in 1831, on pages 176, 177, 334, and 335, and do you understand the same?

A. I have, and I think I understand the same.

Q. 33. State whether you find therein described or made known a combination specified in the first claim of said patent to John Stainthorp.

A. I do not.

Q. 34. Have you at any time been at the establishment of Allen Hay & Co., in the city of New York, and seen or examined candle machines in use at their establishment for making candles; if you have, at what time was you there, and whose make were said machines.

457 Defendant's counsel objects to the above as immeterial for any purposes of this suit, and as not calling for rebutting evidence.

A. I was at Allen Hay & Co.'s factory in New York first, I think, in the fall of 1855, or in the early part of 1856—I will not be certain which—and saw there a number of candle-moulding machines purporting to be manufactured, from stamp or patent mark, Willis Humiston, of Troy, and which I was told were his manufacture.

Defendant's counsel objects to all that part of the answer relating to what was told the witness, as hearsay.

Q. 35. Who told you these machines were manufactured by Willis Humiston?

Same objection last noted.

A. Allen Hay, one of the proprietors of the factory.

Q. 36. Did Mr. Humiston, one of the parties to this suit, ever tell you who manufactured them, or who supplied the machines to Allen Hay & Co.?

Same objection last noted.

A. I think Mr, Humiston has said to me, at different times, that he had supplied Allen Hay & Co. with the candle machines, and expected to furnish them more.

Q. 37. State whether or not Allen Hay & Co. paid a license fee under the Stainthorp patent for the use of said Humiston machines.

Defendant's counsel here objects to the above question for all the reasons above given to the last question; and further states that the plaintiffs have long since closed, by notice, the direct proofs in this case; and further, that the attempt by plaintiffs' counsel, in this

vicious manner, to prove an infringement, in this case, and at this late time, can have no favor in a court of equity.

A. He did.

Q. 38. State whether "exhibit E, Stainthorp" is substantially the same as the machine described in the patent to John Stainthorp and the Patent Office models, complainants' "exhibit A," and defendant's "exhibit K."

458 A. I think they are substantially the same.

Q. 39. How early, if at all, did you know of Stainthorp's constructing candle machines with means therein of starting the piston and candles with a blow, and explain what such means consisted of?

Defendant's counsel objects to the question, 1st, as not rebutting testimony; 2d, as no part of plaintiffs' patent in suit; 3d, as wholly immaterial for any of the purposes of this suit; and if material, should have been introduced before the closing of plaintiffs' direct proofs.

A. I know of Stainthorp's constructing candle machines with a provision at the lower end of the pistons for starting or popping the candles (as it is termed in the trade) in the last part of the year 1853. The means he then used for this purpose consisted in a screw formed on the lower end of the piston, that worked in a female screw in the board or block in which the pistons were all secured in one stand; the pistons for one row of candles were all acted upon together, by means of a device shown in the drawings of the patent. Subsequently to this time, a few weeks only, Mr. Stainthorp effected this same result, viz., the popping or starting the candles, by means of a flange on each piston, between two boards, as shown in the model filed in the Patent Office, or more clearly shown by complainants' "exhibit P."

The witness here states that he desires to correct a statement made in his foregoing testimony in regard to clamps made in the early part of 1855, and says:

I think I have stated that said clamps were not provided with a tip bar. I now wish to state that, after more fully refreshing my recollection, I think they had tip bars, or at least some of them.

Defendant's counsel, in due time, objects to the introduction and reception in evidence of the complainants' "exhibit P," on the ground, 1st, as wholly immaterial for any of the purposes in suit, and if material, it should have been introduced in complainants'

459 direct proof; 2d, as not rebutting evidence; 3d, as no part of the plaintiffs' patent in suit; and, 4th, as not having been shown in the model upon which the patent was granted.

Cross-examined by M. P. Norton, esq., counsel for defendant:

Cross-q. 40. Were you examined as expert witness in the case of John Stainthorp and others, against Willis Humiston, upon the patent granted to John Stainthorp, March 6, 1855, for improvement in candle-moulding machines, or in machines for making candles; and if so, when?

A. I have not been examined as an expert in such a case; that I may be understood, I will state that I was examined as an expert in case of John Stainthorp and others, against George M. Elkinton, in

the city of Philadelphia, in April, 1858, and the testimony was used in the United States district court for the southern district of New York, in the case of John Stainthorp and others, against Willis Humiston, one of the parties in the case.

Cross-q. 41. On what patent were you examined in the George M. Elkinton case, referred to your last answer?

A. Stainthorp's patent of March 6, 1855.

Cross-q. 42. On what was the patent granted?

Objected to by plaintiffs' counsel, as indefinite and uncertain in meaning.

A. On parchment.

Cross-q. 43. Is that all the answer you can give to the question?

Question objected to, as the patent itself states what it was granted for?

A. If it is meant to inquire for what the patent is granted, I will state it was a certain invention in mechanical construction of machinery for expediting the manufacturing of candles.

Cross-q. 44. Were you in 1853 engaged in getting up machinery or machines for the manufacture of candles?

A. I was not.

Cross-q. 45. Did any person or persons see the clamps referred to in your answer to question No. 2, other than yourself; and if so, give the name or names and place of residence?

460 A. There were others who saw those racks or clamps; among them I remember having seen in the factory, when I was in, in examining those machines, Mr. Hume, one of the Messrs. Thayers, and the workmen, whose names I cannot remember, who were in the habit of operating the machines.

Examination adjourned to Jan. 15, at 10 o'clock.

JANUARY 15.

Present: Counsel for respective parties.

Defendant's counsel proceeds with the cross-examination of the witness as follows:

Cross-q. 46. You state on your direct examination that you prepared, some time in 1853, a caveat for Stainthorp, one of the plaintiffs, upon a machine for moulding candles: did you prepare that caveat in your own handwriting; and if so, was it filed in the Patent Office?

A. I did prepare that in my own handwriting, but before filing had it copied, in which state it was filed in the Patent Office.

Cross-q. 47. Did that caveat correctly describe the alleged invention of the plaintiff Stainthorp in the machines about which you have testified on your direct examination?

A. It did, so far as then perfected.

Cross-q. 48. Were there any subsequent papers filed by Stainthorp in that caveat?

A. I think there was an additional description of further improvements, as he regarded them, filed.

Cross-q. 49. Was there, during that year, any other caveat filed by said Stainthorp, upon any alleged improvement in machinery for making candles? and if so, and within your knowledge, give the date.

Objected to by complainants' counsel, as the Patent Office records are the best evidence of the fact inquired about.

A. There was none, so far as I know or recollect.

Cross-q. 50. In your answer to a question on your direct examination you state that Stainthorp, one of the plaintiffs, constructed
461 and put in use about thirty machines like complainants' exhibit A; what do you mean by the term "substantially?"

A. I mean in a mechanical construction and operation the same—that is to say, without deviation or alteration that would require invention, but only such changes as would be commonly made by mechanics or constructors skilled in building such machines, they having before them the machines previously made and operated by Stainthorp, and a general knowledge of constructing such machinery.

Cross-q. 51. How many rows of candle moulds did those machines referred to contain?

A. Two.

Cross q. 52. Where are they located?

A. They were located in the machines, as represented in the model or exhibit marked complainant A, exhibit A, Stainthrop.

Cross-q. 53. How many racks were on each of those machines?

A. Two.

Cross-q. 54. Were the racks hinged to the frame above the moulds, and did those racks contain tip bars hinged to the racks, and did the tip bars contain wick clasps in construction and operation the same as those which now appear upon defendant's exhibit K, now shown you?

A. The racks were hinged to the frames above the moulds in most of the machines. I think there were some of the early experiments where they were not so hinged. The racks did contain tip bars hinged to them with the exception of some of the first experiments, as before stated. The tip bars were not generally provided with the clasps, but some of them were. I cannot remember now what proportion. I will explain that some of the details, such as the rounding out of the tip bar, where the shoulder of the candle rested, were slightly different, but substantially the same.

Cross-q. 55. Are the racks, tip bars, and wick clasps upon plaintiffs' exhibit "A," and referred to in the answer, the same in construction and operation as those described by you last above?

Objected to by complainants' counsel, as the particular exhibit referred to in this question was not referred to by the witness in last answer.

462 A. I do not remember of having referred to plaintiffs' exhibit "A" in my last answer; I referred to defendant's exhibit "K."

Cross-q. 56. What is the difference, if any, in the construction and operation of the racks, tip bars, and clasps in defendant's exhibit "K," and those in plaintiffs' exhibit "A?"

A. I think there is no substantial difference.

Cross-q. 57. Is there any difference in their operation and purpose?

A. The tip bar in exhibit A, Stainthorp, is rounded out for the

shoulder of the tip of the candle, which is an important thing to have done in a working machine; otherwise the candles would be marred at the tip or shoulder in the process of manufacturing.

Cross-q. 58. Do the racks, tip bars, and clasps on these exhibits in construction and operation correctly represent the invention alleged to have been made by Stainthorp in 1853–54, or '55?

A. It does represent the invention as alleged to have been made. I do not think it represents the invention as fully as it might.

Cross-q. 59. Do these models, plaintiffs' exhibit "A," and defendant's exhibit "K," as organized machines, correctly represent the invention alleged to have been made by Stainthorp, the plaintiff, in candle machines, or machines for moulding candles, in 1853, 1854, or 1855?

Objected to by plaintiff's counsel, as the patent itself is the best evidence of the invention of Stainthorp referred to.

A. I think they represent the invention alleged to have been made by John Stainthorp, as in his patent specified more fully. I think the models might have been made so as to more truly and fully represent the invention; but it is difficult in a model fully to set forth all the modifications of an invention.

Cross-q. 60. Do the models or exhibits marked complainants' "A," and defendants "K," correctly represent the alleged invention and improvement of Stainthorp, plaintiff, and described in the caveat papers concerning which you have testified?

Objected to by plaintiffs' counsel.

463 A. I do not think that a clamp as therein spoken of is fully or fairly shown or represented in these models, other than the clamps. I think they do.

Cross-q. 61. Will you please examine the specification of the plaintiff's patent in suit, now handed to you, and marked in defendant's exhibit E, and point out the words wherein it is shown that candles are forced from the candle moulds in a vertical direction by any means whatever.

A. I read from the first claim, "the employment of the pistons DD, formed at their upper ends into moulds for the tips of the candles in combination with stationary moulds to throw out the candles in a vertical direction, substantially as herein set forth." I look at the drawings fig. 1 and fig. 2, and discover the means, devices, and positions of the parts or mechanical agents, as well as the candles and wicks there represented; on the second page of the specification, first line, I read: "When the candles are ejected by the pistons." On the same page, fourteenth line, I read: "HH, the ways or guards to steady and keep in place the slide B in its movements; II, the pulleys over which the ropes or cords by which the slide B, with pistons DD, &c., are raised in ejecting the candles; K, the treadle to which the foot is applied in working the pistons. Instead of using the treadle cord, and pulleys to raise the pistons and eject the candles, I sometimes use a foot or hand lever, in which case the power is applied more directly; L, the block in which the cord is secured; MM, the racks into which the candles are ejected when thrown from the moulds by the pistons." The next page, second

line, I read: "Suppose the candles ready for ejection." Passing to the next line, I read: "When the candles are ejected by the pistons, as before described, is before the pistons are lowered." Three lines down, I read: "The pistons are dropped, thereby straining the wicking; QQ, the holes in the slots of the racks into which the candles are ejected." Further on, I read: "WW, &c.; fig. 2, is to show the position of the slide B in the pistons where the slide is raised, as in ejecting the candles."

Cross-q. 62. Do you find the terms "vertical direction" used in any other place or part of the specification of this patent than in the first claim, as stated by you in your last answer?

464 A. I do not.

Cross-q. 63. Do you findin the specifications or in the claims of this patent vertical stationary candle moulds? and if so, please point out the words or description of such.

A. I don't think the stationary candle moulds are particularly specified by the words vertical stationary candle moulds.

Cross-q. 64. Do you find the terms "stationary candle moulds" used in any other place or part of the specification of plaintiffs' patent in suit than in the first claim of that patent?

A. I do not find the term stationary candle moulds so expressed in words.

Cross-q. 65. What is the difference between "vertical direction" and horizontal direction?

A. Vertical, means towards the zenith; horizontal, towards the horizon.

Cross-q. 56. Could candles, after becoming sufficiently cool or of a proper temperature, be forced from and out of the candle moulds of complainants' patented machine in a horizontal direction? I ask you now, independent of any device to receive or sustain the candle while being or after being ejected entirely out of the mould.

A. They could, provided the machine was turned over and so held as to allow the raising or ejecting device to work.

Cross-q. 67. Of how many separate or distinct devices is covered by the first claim of plaintiffs' patent in suit?

A. Two separate devices, viz: with their proper arrangement and connexion, as specified in the patent.

Cross-q. 68. Will you please name only, without any other description or descriptions, those separate and distinct devices referred to in your last answer and as called for by the last question?

A. Pistons DD, and stationary candle moulds.

Cross-Q. 69. You have stated in your direct examination that you prepared the application made by plaintiff Stainthorp for a patent upon his alleged invention and improvement in candle-moulding or candle-making machinery; was that application patented in the manner and upon the devices claimed by you in that application?

465 Objected to by the plaintiffs' counsel, as the records on the application referred to from the Patent Office are the best evidence concerning the fact inquired about.

A. No; it was rejected.

Cross-q. 70. Was that application afterwards granted upon an amendment of the same?

Same objection last noted.

A. It was.

Cross-q. 71. Who prepared the first claim and the disclaimer of plaintiffs' patent in suit? If you know, please state fully in reference thereto.

Objected to by plaintiffs' counsel as assuming.

A. Charles Everett, who I had associated with myself prior to this time, to attend to my business of soliciting patents at the Patent Office.

Cross-q. 72. In view of the references given by the examiner of patents in the rejection of the application for a patent above referred to, what suggestions, if any, were made by the examiner in charge, Commissioner of Patents, or Patent Office, upon that rejection, and what action, if any, was taken by you or Mr. Everett, your associate, thereafter and thereupon?

Objected to by plaintiffs' counsel.

A. There were certain suggestions made, which the files of the Patent Office which are in evidence on that application which fully show in regard to the claim or claims which would be allowed, which suggestions we availed ourselves of, regarding the first claim in the patent referred to.

Cross-q. 73. Were you and Mr. Everett, to whom you refer in your last answer, duly authorized agents or attorneys of Mr. Stainthorp, plaintiff in this application, from the date of its file in the Patent Office and until the issuing of the patent of March 6, 1865?

A. We were not.

Cross-q. 74. Who were, if any person or persons?

A. I was consulting or acting agent under the direction of Mr. Stainthorp from the first, but never filed a power of attorney in the Patent Office; Mr. Everett acted under a power of attorney from Mr. Stainthorp after the rejction, as will more fully appear from the files of the office referred to.

466 Cross-q. 75. Do you believe, and are you now able to state whether the specifications of the plaintiffs' patent in suit, exclusive of the claim and disclaimer therein, are full, faithful, and accurate descriptions of the invention alleged to have been made by plaintiff Stainthorp in machinery for moulding or making candles in 1853, 1854, or 1855?

Objected to by complainants' counsel.

A. I think they are, waiving the caveats and experiments before spoken of.

Cross-q. 76. You will please look at the drawings of a certified copy of plaintiffs' patent in suit, marked defendant's exhibit "E," and state whether those drawings are correct representations of the organized machine and the various parts thereof represented by plaintiffs' exhibit "A" and defendant's exhibit "K;" and if not, please state wherein they differ, if at all?

Objected to by complainants' counsel.

A. They are substantially so, with the exception in regard to the tip bar before spoken of, and excepting the device shown in figure 3, which was disclaimed.

Cross-q. 77. Please state whether or not the rack hinged to the frame, and tip bar hinged to the rack, and the wick clasps attached to the tip bar, and which appear upon complainants' exhibit "A" and defendant's exhibit "K," now before you, are correctly represented in construction, attachment to each, and operation in these drawings of complainants' patent in suit, and attached to and a part of defendant's exhibit "E."

Objected to by complainants' counsel.

A. I think they are, substantially, with the exception in regard to tip bar before stated.

Cross-q. 78. You will please omit the word "substantially," and then state whether or not the racks, tip bar, and clasps, referred to in the last question, are correctly represented or illustrated by said drawings as to their construction and operation in and for the manufacture of candles.

Plaintiffs' counsel objects to question, and the examiner is requested to inform the witness that he is at liberty to use such words or terms in his answers as will best convey his meaning.

467 A. If the counsel will please tell me just what he would like to have me say, I will then consider whether I will oblige him or not; but I understand that these drawings do exhibit the same general idea as embodied in the models, with the foregoing qualifications, as given in the previous answer.

Cross-q. 79. Defendant's counsel replies to the inquiry of the witness in the last answer, or to his request therein, and states that he desires the truth, and only the truth, without being backed up by the word "substantially," or any other words of like equivocation and indefinite meaning, when applied to this alleged invention of Stainthorp, and requests the witness so to answer the last question, which is now here repeated.

Complainants' counsel objects to the above question and statement.

A. In response, I will state, I have been as careful as I am capable of being with the facts before me, as they present themselves, to avoid all equivocation or equivocal replies, in answer to the questions as they have been propounded, and I have strove to use the best language at my command to express my thoughts, belief, and convictions of the truth, in close response to the questions given; therefore, I repeat my previous answer.

Cross-q. 80. Is it within your power as an intelligent and understanding witness, as you now appear to be, and with your desire to tell the truth, and nothing but the truth, as the examining counsel admits such to be, to answer the last two questions without using the term "substantially?"

Counsel for plaintiffs objects to the question.

A. To avoid further parley on what seems to me to be a very great piece of nonsense about words, I will state, that I don't conceive that there is absolute accuracy in the representations before me in the

mechanical constructions, but that they are sufficiently alike to represent each other fairly, with slight variations such as common in mechanical constructions, as has been before alluded to.

Cross-q. 81. Look at defendant's exhibit "K," and state why the racks on that exhibit were not hinged upon the inside so as to turn towards the centre of the machine.

468 Objected to by complainants' counsel, as no foundation has been laid for the question.

A. Because it was contemplated in the Stainthorp patent, or description filed in the Patent Office, of using the racks to drop out the candles into a box or canvas located at the side of the stand, as one means of discharging the candles from the racks to avoid handling the candles; and, as I suppose, this was intended to be a representation of the racks in the model filed in the Patent Office.

Cross-q. 82. Is there any rack or pinion shown or described in the plaintiffs' patent in suit for any purpose whatever?

A. There is not specifically.

Cross-q. 83. Look at plaintiffs' exhibit "A," and defendant's exhibit "K," and state whether either of those exhibits contain a rack and pinion for the purpose of raising or lowering the piston platform and pistons, or for any other purpose whatever; and if so, in which?

A. There is no rack and pinion for raising the platform, or for any other purpose.

Cross-q. 84. Did John Stainthorp at any time, and if so, when, apply racks and pinions to his alleged patented candle machine in suit for the purpose of raising or lowering the piston platform and pistons?

A. He did in the summer of 1855, I think.

Cross-q. 85. Why did he apply these racks and pinions for that purpose?

A. For the same reason I suppose that others have used that device for raising and lowering, or moving parts of machinery before him, and because he found this a cheap, efficient, and successful means of operating the pistons in the stationary moulds, and ejecting the candles therefrom in a vertical direction, as specified in the patent.

Cross-q. 86. I notice in the plaintiffs' exhibit "A," and defendant's exhibit "K," a brass pulley in the frame under the vat or trough, also another brass pulley in the side or end frame; will you please explain the object and purpose of these pulleys, and also whether they are described in plaintiffs' patent in suit?

A. They are in combination with the breadth, and treadle, and cords for raising the board and pistons in giving the hammer
469 stroke for starting the candles and ejecting them from the stationary moulds, as clearly set forth in the patent.

Cross-q. 87. Do you regard the racks and pinions above inquired about, and concerning which you have testified, as the same device for raising the piston platform and pistons, as the cord, pulleys and lever as the same device for raising the platform and pistons, and described in plaintiffs' patent in suit?

A. I do not regard the rack and pinions the same, mechanically, as the cords and pulleys, lever, or treadle described in the patent.

Cross-q. 88. Do you regard them as what you would term "equivalent" devices?

A. Not as mechanical constructions, absolutely considered, though they perform the same function in these machines.

Cross-q. 89. Will you please point out upon defendant's exhibit "K," and upon complainants' exhibit "A," a lever for the purpose of moving the piston platform and pistons up and down, or for any other purpose?

A. There is no lever shown in either of these exhibits.

Cross-q. 90. You will please point out in the same exhibits the cord to which you have referred in a previous answer as being used in combination with other devices for the purpose of moving the said platform and pistons up and down, or for any other purpose.

A. There is no cord in either of those exhibits shown, and I think I have not spoken of a cord being shown in those exhibits, but as having been described and shown in the specification or patent of John Stainthorp, as per defendant's exhibit E.

Cross-q. 91. You will please point out any device in either of said exhibits for throwing candles out from the candle moulds "in a vertical direction," and in your answer you will specifically name the part or parts of such device if any you so find.

A. I do find in both of these exhibits devices for throwing out the candles in a vertical direction; the device or devices consists in the pistons, and the stationary moulds. That I may be understood,
470 I will state that in looking at these devices I take into consideration the whole of the machine as organized in all its relations and parts for this purpose, and cannot see any propriety for singling out one element, for it is well known that there is no machine or mechanical construction, one element of which if taken alone, that element can be supposed or reasonably expected to perform the functions of a given end alone, and separately considered. It is manifestly nonsense to pretend that a piston or a section of a piston, or section of a mould, would perform the functions of a complete piston and complete mould put in their due relations and positions with regard to the other parts, in a perfectly organized construction for a given end; and besides, I think it would be absurd to ask any mechanic, constructor or operator, to make such parts perform any given function separately and distinct from the other parts of the organized whole; and I will further state, while on this point, that it is manifest to the common sense of any one, that when a stand of moulds constructed to be stationary, and so put in position with the vat above them to be filled with melted material with as little surplus of material to be used as possible, and perfectly fill the moulds and form the candles—in such moulds, the top of the stand must be horizontal or level, or nearly so, to obtain the greatest perfection in that vat (properly filling the moulds,) and if the other parts of the organization for ejecting the candles is properly arranged with an eye to this end, the candles when ejected will be ejected in a vertical direction, and any machine

so constructed with stationary stands or moulds must necessarily eject them vertically or lose the great advantage gained in the general construction. Therefore I say that the stationary moulds and the pistons formed into tips at their upper ends to mould the tip of the candle in combination with the main mould, do in these exhibits show the devices for that purpose, viz: throw out the candles in a vertical direction.

The defendant's counsel objects to all that part of the answer after the word "moulds" and beginning with the words "That I may be understood," as not responsive to the question; 2d, evasive; 3d, voluntary testimony; 4th, as the argument of the witness.

471 Cross-q. 92. The same question is here repeated, and the witness requested to answer the same without argument, and without theories, fancied or otherwise, state only facts.

Objected to by complainants' counsel, as assuming and instructing the witness in what manner to answer a question regularly put to him.

A. I repeat that I do find pistons formed at their upper end into tip moulds in combination with stationary candle moulds to throw out the candles in a vertical direction, substantially as described in John Stainthorp's patent of March 6th, 1855, which, when taken in connexion with the other parts of the machines or exhibits for that purpose, as an organized whole, are complete.

Cross-q. 93. You will please point out in these exhibits plaintiffs' exhibit "A," and defendant's exhibit "K," the device to which the pistons are attached, and by which the pistons are operated up or down, and you will name such device, if any you find.

A. The board or boards at the base or lower ends of the pistons which may be termed a platten or platform, which is to be acted upon by any mechanical device thought desirable.

Cross-q. 94. You will please point out in the same exhibits the device or devices which operate this platten or piston platform referred to in your last answer, for the purpose of operating the same in any manner whatever.

A. There is none shown in these exhibits.

Cross-q. 95. If in the said exhibits the candles be tip moulds formed in the upper ends of the pistons, as described in the plaintiffs' patent in suit, were fitted up so that the said upper end would be level and no mould therein, would such device answer to the device which forms a part of the combination in the first claim known as D D?

A. It would not, if it is meant that they were formed in square, into buts or plugs, filling up the tips of main moulds at rights angles with the axis of the stationary moulds.

Cross-q. 96. What must be the exact length of the pistons "D D" to answer to the device called for by the first claim of the plaintiffs' patent in suit?

A. The gauge is in the patent, and in the first claim, "to throw out the candles in a vertical direction."

472 Cross-q. 97. If these pistons D D should throw out the candles from the candle moulds in a horizontal direction, would

that answer to the device called for by the first claim of plaintiffs' patent in suit, and known as pistons D D?

A. I think it would not, for two reasons: it would not be in strict conformity with the language of the claim, and it would take up the contemplated construction and harmonious action of the organized whole for that purpose, and to do such a thing would be like capsizing a railroad car to get rid of the passengers; still I do not wish to be understood to say that in all cases direction is to control entirely the scope of this patent in my opinion; but that question seems to me to be more properly a question for the court than for me.

Cross-q. 98. In your judgment is the first claim of plaintiffs' patent in suit a claim for an organized machine for moulding or making candles.

Objected to by plaintiffs' counsel.

A. No; the first claim is for the employment of "the piston D D, formed at their upper ends into moulds for the tips of the candles in combination with stationary candle moulds, to throw out the candles in a vertical direction, substantially as set forth." These elements perform the important function described, of throwing out the candles in a vertical direction as well as moulding the candle, cutting the wick at the tip, and in the general organization act harmoniously with the whole construction as contemplated and described in the patent.

Cross-q. 99. What is meant by the term "employment," used in the first claim of plaintiffs' patent.

Objected to by plaintiffs' counsel, as the term does not need expert testimony to define its meaning.

A. Use or service.

Cross-q. 100. What is the meaning of the term "combination," used in the first claim of plaintiffs' patent in suit?

A. Together with; associated with; bound up; and what is generally understood in general common parlance.

Cross-q. 101. What devices, if any, do you find together or associated in the first claim of plaintiffs' patent in suit?

473 A. Stationary candle moulds, which are fixed in a stationary stand, and have their tips or lower ends cut off, leaving an aperture, to conform to the size of the tip moulds, which are formed at "the upper ends of the pistons D D."

Cross-q. 102. In your direct examination you have testified to an arrangement or use of a device at the lower end of the said pistons, for starting, loosening, or popping candles in the candle moulds; you will please state whether you regard this feature or device as important in the said Stainthorp machine in the manufacture of candles.

A. I don't regard it as a very important feature; it has its use. I am not so good a judge of the value of that feature as a practical candle-maker would be. Mr. Stainthorp, I think, particularly in his early experiments, and manufacture, and introduction, always regarded it as important, and always constructed his machines with it in.

Cross-q. 103. Do you regard it as any part covered by the first claim of plaintiffs' patent in suit?

A. That, again, seems to me to be a question more proper for the court than for me. The claim says "substantially as set forth," which may refer back to that feature in the pistons, or more particularly the manner of ejecting the candles specified in the patent.

Cross-q. 104. Do you regard the platen or piston platform as any part of the first claim of plaintiffs' patent in suit, and covered by that claim as a part of the combination therein mentioned?

A. This is another question which seems to me for the court rather than me. I am inclined to think that it does not come squarely into the first claim, but it is one of those necessities of the organization as a whole that must always be taken into consideration.

Cross-q. 105. Do you regard the pulleys shown in the plaintiffs' exhibit "A" and defendant's exhibit "K" as any part of the combination specified in the first claim of plaintiffs' patent in suit?

Objected to by complainants' counsel.

A. I do not.

Cross-q. 106. Do you regard the racks, tip bar, and clasps
474 shown upon the said exhibits as any part of the combination specified in the first claim of plaintiffs' patent in suit?

A. No.

Cross-q. 107. Do you regard the vat or trough, shown in each of the said exhibits, as any part of the combination described in the first claim of plaintiffs' patent in suit?

A. I do not regard it as specially set forth in that claim, though, as I have said before, that is to be considered. It seems to me as the other parts before specified by me as going in to make up a perfect organization and efficiency, and to make operative the parts therein specially claimed.

Cross-q. 108. Do you regard the forcing of candles in a vertical direction as any part of the combination specified in the first claim of plaintiffs' patent in suit?

A. I do, when forced out in a vertical direction, substantially as set forth, and by the means employed.

Cross-q. 109. How far out from the moulds is it necessary to force the candles in a vertical direction in order to make the combination specified in the first claim of said patent complete and perfect?

A. I refer you to the first claim as the most perfect answer that can be given.

Cross-q. 110. What do you mean to be understood by the terms "stationary candle moulds?"

A. Fixed candle moulds, as set forth in the Stainthorp patent.

Cross-q. 111. What do you mean by the term "pistons," as referred to by you on this examination?

A. The things marked D D in the drawings in the Stainthorp patent.

Cross-q. 112. Please state the mechanical construction of the "things" referred to by you in your last answer.

A. They are cylinders formed at their upper ends into tip moulds for candles, as most fully and clearly illustrated and described in the

specifications and drawings of John Stainthorp's patent for candle-moulding machine, dated March 6th, 1855.

Cross-q. 113. Is the mechanical construction of said "pistons," or "things," referred to in the last two questions and answers, correctly represented in plaintiffs' exhibit "A," and defendant's exhibit "K?"

A. I think they are substantially; I think they may be
475 found also substantially represented in all of the Humiston machines broadcast over this country.

Defendant's counsel here objects to all that part of the answer commencing with the words, "I think they may be," as not responsive to the question, and as designed wilfully, on the part of the witness, to prove an infringement of the Humiston machines upon plaintiffs' patent in suit, without ever having been interrogated upon that subject by the complainants' counsel or defendant's counsel either.

Complainants' counsel objects to the foregoing statement, or any portion of it, been taken or used as evidence in the case, the same having been written down by the examiner as a statement made by the defendant's counsel.

Defendant's counsel replies to the statement of complainants' counsel, in the form of an objection, and says that his objection last above given was not designed as evidence, but simply to call the attention of the court to the manner of the statement or reply of the witness to the question last above.

Cross-q. 114. Why did you, in answer to the last question, make the following statement: "I think they may be found also substantially represented in all of the Humiston machines broadcast through the country," when the question last above only called for your answer to the pistons found in defendant's exhibit "K" and plaintiffs' exhibit "A?"

A. For the very good reason, to my mind, that you did not appear satisfied with the extent of my description given in the three last previous answers in regard to what the pistons really were. I had given you the most exact description I was capable of, and I thought that you wished a little more latitudinous description, or a description a little broader and more extended, showing that the piston in some of its modifications or slight alterations that it was susceptible of while still retaining its legitimate function, construction, and application to moulds and machines substantially like that patented by
John Stainthorp, and fully illustrated and most clearly de-
476 scribed in his patent for a candle-moulding machine, March 6th, 1855.

Cross-q. 115. Do you wish to be understood, and do you wish the court to understand, that this is all, and the only excuse which you have for thus answering the question, as referred to in the last question?

The complainants' counsel objects to the term "excuse," as used in the last question, that not being the term used by the witness, nor conveying the same meaning as the term "reason," used by him.

A. I don't regard the reason given anything less than a good and

substantial reason, and it is to my mind such a reason for the answer given.

Cross-q. 116. Do you regard the "moulds for the tips of the candles," in the upper ends of the pistons D D, as an important part of the combination specified in the first claim of plaintiffs' patent in suit?

A. I do so regard them.

Cross-q. 117. State whether or not you find in complainants' exhibit "M," Stainthorp, it being a model of the Morgan machine referred to in your direct examination, candle moulds?

A. I do find candle moulds.

Cross-q. 118. You will please state whether or not the said candle moulds are stationary as respects themselves, or in the frame in which they are found?

A. They are stationary in the frame, or, more properly speaking, fixed in the frame or stand.

Cross-q. 119. What is the position of said moulds while being filled with melted material?

A. They stand vertically under the reservoir described in defendant's exhibit "B."

Cross-q. 120. While in that position, and while stationary or fixed in respect to each other, or in the frame or stand in which they are found, is there a vat or trough above such moulds?

A. There is.

Cross-q. 121. Do you find in that machine, or rather in complainants' model, marked exhibit "M," Stainthorp, moulds for forming the tips of candles?

A. I do.

Cross-q. 122. Do you find in said exhibit candle moulds in
477 combination with moulds for forming the tips of candles?

A. I do.

Cross-q. 123. While the vat or trough is in a horizontal position, and the candle moulds in a vertical position and under the reservoir, and while such candle moulds are being filled with melted material from such reservoir, do you find the combination referred to in the last question?

A. I do.

Cross-q. 124. Do you find in said exhibit a device or mechanism by which the candles thus formed or cast are forced entirely out from such candle moulds when the candles or moulds are sufficiently cool?

A. I do.

Cross-q. 125. What is the direction in which the candles are thus forced out from said moulds?

A. Horizontal.

Cross-q. 126. Do you find in said exhibit a device for receiving and holding the candles after having been ejected or forced from the said moulds in the manner as you have testified?

A. I do.

Cross-q. 127. Are the candles by that device seized or held in this exhibit, after having been forced from the moulds in the manner as you have testified?

A. They are.

Cross-q. 128. After the candles have become sufficiently cool in said candle moulds, and after having been placed in front of the device or mechanism for forcing out the candles in a horizontal direction, and after having secured the frames or stand containing the said candle moulds to the main frame of the machine, and after having turned the said exhibit (or a machine constructed like that) from a horizontal to a perpendicular position upon one side of the same, could not, by the operation of said device or mechanism, candles be forced entirely from the moulds in a vertical direction?

A. They could, but it would not be practicable as a working machine. That I may be more fully understood, I will now state that such a set of manipulations and operations as described in the last question could not possibly ever have been seriously contemplated or reasonably suggested from the very nature of things as
478 therein shown by the inventor, or by any one constructing or operating the Morgan patent candle-moulding machine, as illustrated in complainants' exhibit "M," and in defendant's exhibit "B." First, for this reason, the melted material in the reservoir would be forced out, wasted or lost; second, the stands on the railways, with candles in them or not, would have to be taken away or set one side, as they would be tumbled pell-mell in confusion, disorder and general destruction; third, the stand to be operated upon by the ramming mechanism would have to be chained or thoroughly secured in some manner in front of rammers, and in due position, with great care, as it would go, with all else that was loose, into general confusion; fourth, there would have to be some additional device for holding up the reel to admit the rammers, or there would be confusion there, and the whole arrangement seems to preclude the most remote possibility of such a mode of operation, saying nothing of the apparent great power required to upset such a machine, which would be hardly less than raising a bent in the frame of a barn 30 by 40 feet. Besides, I will further state that the ramming process here is of such a compound construction that it would be likely to be seriously disarranged.

Defendant's counsel here objects to all that part of the answer after the words "they could," as not responsive to the question, and as testimony volunteered by the witness, he having not been interrogated upon the matters pertaining thereto, either by complainants' counsel or by counsel for defendant.

Cross-examination of the witness adjourned to January 16th, at 10 a. m.

JANUARY 16th, 1864—10 a. m.

Counsel on both sides present, and cross-examination proceeded with, as follows:

Cross-q. 129. Look at defendant's exhibit "L," now shown you, and state whether you find in complainants' exhibit "M," it being a model of the Morgan machine, as you have testified, and state whether you find in that exhibit last referred to the devices shown by the exhibit of the defendant, marked "L."

479 A. I do.

Cross-q. 130. When the devices of defendant's exhibit L are in proper position or condition for moulding a candle with a tip thereon, do you find them the same combination of those devices as that found in the Morgan machine, represented by complainants' exhibit M?

A. I do, so far as the main mould and tip mould are concerned; but I will state that the inside of the main mould of exhibit L is slightly different, not being of a true taper through its entire length, as that shown in complainants' exhibit M.

Cross q. 131. If the complainants' exhibit M, Morgan machine model, were turned up from a horizontal to a vertical position, and the candle-mould stand or frame containing the moulds and tip moulds for forming the candles was firmly attached to or made a part of the main frame of the machine, and if the reservoir which holds the melted material in that exhibit were entirely removed from the machine, and the machine yet remaining in that position and condition with the said tip moulds directly over the ramming mechanism, could not candles be made in and by such moulds?

A. They could; but not advantageously or practically with even that construction.

Defendant's counsel objects to all that part of the answer after the words, "They could," as not responsive to the question; and second, as immaterial for any of the purposes of this suit; and third, as testimony volunteered by the witness.

Cross-q. 132. You will please state how the candle wick in the Morgan machine, represented by complainants' exhibit M, is supplied to the candle moulds for the candle to be moulded therein?

A. It is supplied from the reels in a frame or cylinder below the moulds through a case with apertures, thence through a curved aperture commencing at the side of the lower portion of the tip mould and terminating in the centre of the same; thence through the main moulds to the nippers, where it is secured above or centrally over the main moulds.

Cross-q. 133. You will please look at defendant's exhibit
480 K. and point out and name the device therein shown by plaintiffs' exhibit P, if any you so find in such exhibit K.

A. I do find such device or devices, and it is the piston or pistons therein shown and more clearly illustrated and delineated in the patent of John Stainthorp, of March 6, 1855, and also the raising board or platen, is illustrated or shown in both exhibits and in said patent.

Cross q. 134. If the candle-tip moulds in the Morgan machine, complainants' exhibit M, were of the same or greater length of the candle moulds in said exhibit, would that change at all or effect the combination of candle mould and mould for forming the tips of the candle in that machine?

A. It would change the mould for forming the tips, so that it would entirely break up and confuse the whole organization of the machine.

Cross-q. 135. You will please look at sheet, drawing A, figs. 1 and 2 thereof, of defendant's exhibit D, (printed copy of Morgan and

Gaskell patent,) and name the devices specifically, if any, you find therein or thereby shown.

A. I find in fig. 1 a longitudinal section-cutting candle mould, broken candle, a tip mould or nozzle made in parts, having an elastic section secured in a movable tongue and wick, with the candle and nozzle in position as partially thrown, or drawn, or rammed from the main mould; in fig. 2, the same parts, with the nozzle near the tip of the main mould, I think, showing the position of the parts at the time the candle is cast or moulded.

Cross-q. 136. You will please look at defendant's exhibit A A A, and state whether you find, or not, in that exhibit, vertical stationary candle moulds.

A. I do find such moulds.

Cross-q. 137. You will please look at the same exhibit and state whether or not you find therein a vat or trough above the vertical stationary candle mould, to receive melted material for supplying the moulds below.

A. I do find such a trough or vat, rather a deeper one.

Cross-q. 138. You will please look at the same exhibit, and state whether or not you find in the same moulds for moulding the tips of the candle in a vertical position.

481 A. I do find such moulds for the tips of candles.

Cross-q. 139. Do you find in same exhibit the moulds for moulding the tips of candles in combination with the vertical stationary candle moulds?

A. I do.

Cross-q. 140. You will please look at same exhibit, and state whether you find in that exhibit a platform moving up or down.

A. I find a platform, with provision for a movement in a verticrl direction, which seems to have been made with a view to the deical of the vat above the main moulds, as I find the provision for such movement to correspond with the depth of the vat above and just one-eighth of an inch more.

Cross-q. 141. You will please name the device in which you find the mould for moulding the tips of the candles in said exhibits.

A. It is a plug, a stationary or loosening plug, or popping device, or mandrel.

Cross-q. 142. Have you any objection to naming this device in candle-tip mould?

A. I think it is something more than a tip mould.

Cross-q. 143. Do you find the lower end of this device connected to the movable platform before described by you?

A. I do.

Cross-q. 144. When this movable platform is moved in a vertical direction by any means whatever, are these devices so attached moved upwards vertically?

A. They are.

Cross-q. 145. By what means is such platform and such devices thereto attached moved upward in a vertical direction in this exhibit?

A. By a lever.

Cross-q. 146. Are the candles moulded in said vertical stationary candle moulds and tip moulds forced vertically upwards by means of said devices, so attached to said platform, and by the said platform and by the said lever, with power thereto applied?

A. They are capable of being forced up one-sixth of the
482 length of the main mould in a vertical direction, sufficiently, I think, to loosen, pop, or start, the candles in the main moulds.

Defendant's counsel here objects to all that part of the answer after the words "vertical direction," as not responsive to the question; and 2d, as wholly immaterial in view of the first claim of plaintiffs' patent in suit; and 3d, as volunteered testimony on the part of the witness.

Cross-q. 147. Do you find in said exhibit candle wicks passing through the centre, or nearly so, of this plug or candle-tip mould and into the vertical stationary candle moulds, for the candles to be moulded therein; and if so, from what is it taken, and where?

A. I do find such wicks passing from the spools below.

Cross-q. 148. Through what devices, and in what direction, does this candle wick pass, as referred to in your last answer?

A. Through the stationary plugs before described by me, and in a vertical direction through the stationary candle moulds, to the hooks and rollers for drawing the candles from above.

Cross-q. 149. What is your authority for calling this candle-tip mould device, attached to the movable platform, a "plug," and what is your authority for saying that such device "pops" the candles only?

A. My common sense in the use of language in the expression of my ideas, in the most simple, truthful, and direct manner.

Cross-q. 150. If these "plugs," so called by you, were extended downward of a sufficient length to correspond with the length of the vertical stationary candle moulds, or of a somewhat greater length, would that, in your judgment, correspond and answer to the two devices in the combination named in, and covered by, the first claim of plaintiffs' patent in suit?

A. I think it would, because it would then become a new and different construction, answering not only as a starting or popping device, but an ejecting device, substantially as claimed by the first claim of the Stainthorp patent in this suit, and would preclude the
483 necessity of the additional machinery or device now shown in exhibit A, A, A, for drawing the candles from the mould, after they had been loosened therefrom, as in the present construction. I will further state that the ways would have to be extended down, and the spools lowered, and such other alterations made as to carry out that idea—I mean the idea of giving capacity in the parts and general construction for these movements and operations as suggested in the question.

Defendant's counsel here objects to all that part of the answer after the words "I think it would," as not responsive to the question; and 2d, as volunteered statements by the witness; and 3d, in view of the

first claim of patent in suit, as wholly and entirely immaterial for any of the purposes of this suit.

Cross-q. 151. Now, are not the candles in plaintiffs' exhibit "A," defendant's exhibit "K," or in machines of a larger size in construction like those, "popped" and "started from the moulds" in which the candles are formed; and if so, how?

A. They are popped and started from the moulds by the action of the pistons in said machines, as in the patent most fully specified.

Cross-q. 152. What is the direction the candle takes during the operation of popping and starting in the exhibits and patent referred to in your last answer?

A. The direction in which it is ejected, namely, "vertical."

Cross-q. 153. What is the direction the candles take during the "operation" of "popping" and "starting" in defendant's exhibit AAA?

A. They are started in the same direction that they are drawn out, namely, vertical.

Cross-q. 154. Are the candles in the Stainthorp candle machine patent in suit started, and afterwards forced vertically upwards for an inch from the lower end of the candle mould, exclusive of the tips of the candles?

A. No, they are not; that I may not be misunderstood, the candle is not forced at all, exclusive of its tips, in the Stainthorp machines.

484 Cross-q. 155. Are the candles in the Stainthorp machine referred to in the last question forced vertically upward one inch?

A. No; that I may be more clearly understood, I will explain: they are not thrown out from the moulds "in a vertical direction;" I do not suppose that the construction of the machine is such that the pistons must go their whole length or not at all, yet that is the practical operation in ejecting the candles.

Cross-q. 156. You mean to be understood, then, do you, that candles in the Stainthorp machine are forced vertically through the whole length of the moulds without first having been forced through the space of one inch, do you?

A. I mean to be understood that the candles are ejected from the moulds in a vertical direction in the manner described in Stainthorp's patent, March 6, 1855, and common sense would indicate, it seems to me, that they must be started before they are ejected; and the exercise of the same common sense, in reading the description of the Stainthorp patent, would indicate that they are not thrown hitchingly along now and stopped by the way, but are carried or ejected right along out of the moulds, without any additional or other device or mechanical construction to discharge them.

Cross-q. 157. If candles in the Stainthorp machine were forced vertically upward for about half the length of the candle-mould, and in that condition and position should remain over night, and then in the morning be forced entirely out from the mould in a horizontal di-

rection, would that, in your judgment, constitute an infringement of the first claim of plaintiffs' patent in suit?

A. I understand you now to ask me, in substance, this question: that having an organized machine, substantially like that patented by John Stainthorp, March 6, 1855, with candles in, and properly moulded, the surplus material having been scraped off and taken out of the vat above, and the candles partially thrown out, then allowed to remain a time, next the machine turned over on its side, then the balance of the operation of ejecting the candles performed; with that understanding of your question, I will answer, I think, to manufacture, to vend, or to operate or use such a machine, would infringe that
485 claim, besides doing it in a very awkward, and in a very impractical way, so far as the operation is concerned.

Cross-q. 158. Please state whether candles moulded in defendant's exhibit A A A can (after having been first popped or started, as you have so stated) be forced vertically upward for a distance, or through a space of one inch, by means of the candle-tip moulds attached to the movable platform, and by means of that lever, as before described.

A. To the extent equal to the depth of the vat; or in another way of expressing it, about one-sixth of the length of the main or stationary moulds; or still another way of expressing it, they can be forced almost one inch vertically upwards.

Cross-q. 159. Look at defendant's exhibit "K," and state, if you please, whether or not you have ever seen candle machines constructed and operated like that exhibit; and if so, when and where, and by whom, and about how many?

A. I never have seen candle machines constructed or operated like this, as it now stands; but had this another rack, and had it not seen quite so much service as it appears to have seen, and been doctored or repaired in the manner it seems to have been, I should recognize an old acquaintance more fully in it, with the exceptions last stated in regard to the deficiencies, breakages, wear; I have seen many of those machines, say fifty at least; such machines were manufactured by Mr. Stainthorp, one of the complainants in this case, and others, in the city of Buffalo, to my knowledge, and sold to candle-makers in different parts of the country, and were successfully operated, as I know and believe.

Cross-q. 160. Is this establishment, defendant's exhibit "K," a patented concern, or any part of it; and if so, under whose patent, and what is the date thereof?

Objected to by complainants' counsel, as the object of the question appears to be to ridicule an old fossil, which the defendant has somewhere dug up and got into shape, and which has evidently been introduced in this case, to enable the defendant to contrast the beauty of finish of the new machines which he now makes and sells, with this old machine, which has become worn out and damaged, either
486 by hard usage, or by long usage, and to enable his counsel to display his peculiar talent in ridiculing the same.

Defendant's counsel replies to the statement of the plaintiffs' coun-

sel, and says that on the argument of this cause he will refer this whole matter to the court in a respectful and becoming manner.

A. It is a machine, as the brand on the end of it will indicate, made under the patent of John Stainthorp, and was among the first manufactured under that patent of March 6, 1855, as I have personal knowledge.

Cross-q. 161. Do you know anything in relation to John Stainthorp, one of the plaintiffs in this suit, obtaining a patent upon improvement in machinery for the manufacture of candles some time during the year 1855, in the province of Canada?

A. I do know something about that.

Cross-q. 162. Please examine the drawings attached to defendant's exhibit "O," and state whether or not those drawings represent the alleged invention patented to Stainthorp by the United States of America, March 6, 1855.

A. I should think they did.

Cross-q. 163. Do you know who prepared the original papers which composed the caveat papers in John Stainthorp's caveat file of 1853, and marked complainants' exhibit "F," Stainthorp?

A. I prepared the first signed John Stainthorp, witnesses Charles Monning and S. P. Kittle. The next caveat I know nothing about further than here represented to me; and having only hearsay knowledge of it heretofore, and having seen a similar file in the previous case of John Stainthorp *et al.* against Elkinton, in Philadelphia, before alluded to in my testimony.

Cross-q. 164. In the description of the Hewitt machine referred to on your direct examination in this case, do you find the employment of movable piston tips combined with vertical and stationary candle moulds, the tips being employed to act on the tips of the candles and to force them in a vertical direction towards the upper ends of the candle moulds?

A. I do not find in said description a piston tip. I find a plug or mandril, properly so called, the office of which is to pop or start
487 the candles only. The plugs fitted to rails and form their upper ends, one of them passing into each rail and forming its end that is to say, the plug is on the end of the rail and in the lower end of the candle mould.

Cross-q. 165. Would a mould thus constructed form a candle with a tip thereon?

A. Well, I am in some doubt, from this description, about that. I do not find a tip mould described, but only a plug with a hole in it for the wick to pass through and for starting or popping the candles preparatory to drawing them by their wicks, and the mechanical contrivance or construction for that purpose, which is elevated sufficiently above the tops of the moulds to allow of the pouring of the tallow.

Cross-q. 166. What kind of a candle, in shape, would be formed by the candle moulds and the plugs referred to in your last answer?

A. It would be an ordinary shape or form of candle, having the form of the small end the reverse of the upper end of the plug.

Cross-q. 167. Do not the plugs or mandrels, which you have above

described in relation to the Hewitt device, force the candles upward in a vertical direction?

A. Sufficiently to start or loosen them from the moulds, I think.

Cross-q. 168. About what distance would that be?

A. Equal to the compression of the material of which the candle is composed, caused by the adhesion of the candle to the mould.

Cross-q. 169. And would not all that you have described in your last answer also be true in the Stainthorp machine in suit?

A. If the candles were only to be started in the Stainthorp machine, and then drawn by the wicks, as in the Hewitt case, then the rule would apply the same.

S. P. KITTLE.

Sworn to, before me, this 16th day of January, 1864.

CHAS. W. NEWTON,
U. S. Examiner, &c.

488 "*Exhibit F—Stainthorp.*"

R. E. STILWELL, *Examiner.*

STAINTHORP'S CAVEAT.

The United States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy, from the files of this office, of caveat filed by John Stainthorp, Nov. 18, '53; additional paper filed Dec. 24, '53, and affidavit filed Nov. 25, '53; also a copy of file wrapper.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this sixteenth day of December, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-eighth.

D. P. HOLLOWAY.

To the Commissioner of Patents:

The petition of John Stainthorp, of Buffalo, in the county of Erie, and State of New York, respectfully represents: That he has made certain improvements in machinery for moulding candles, and that he is now engaged in making experiments for the purpose of perfecting the same, preparatory to his applying for letters patent therefor. He therefore prays that the subjoined description of his invention may be filed as a caveat in the confidential archives of the Patent Office, agreeable to the provisions of the act of Congress in that case made and provided, he having paid twenty dollars into the treasury of the United States, and otherwise complied with the requirements of the said act.

JOHN STAINTHORP.

BUFFALO, *Nov.* 15, 1853.

The design of my invention is to expedite the manufacture of candles.

I construct my moulds of any desired form or size, with an aper-
489 ture in the tip end, fitted for a piston; I construct also a piston for

each mould of a size to correspond with the aperture in the several moulds for which they are intended; these pistons I make hollow, having one end flaring, to form the mould for the tip of the candle. Through this tip mould I make a small aperture, just sufficient to pass the wick without injury. To characterize more fully my invention, suppose a stand of several of my moulds attached, with my pistons dropped through them until the flaring end or tip mould of the piston rests in the tip of the main moulds; then let these several pistons be secured into one block, each piston being in line with its mould; now let the several wicks be passed through the apertures in their tip moulds, thence strained through the centre of the several moulds; then let the moulds be filled with melted tallow, and when sufficiently cold, let the block to which the several pistons are secured be raised by lever or otherwise; by means of the piston the candles will be ejected, and the wicks drawn after them from the balls which are secured below; as the candles are ejected they are caught in clamps (or some analogous device for that purpose) and held in a position that the wicks (as the several pistons fall back to their position below) will be strained in a line through the centre of the several moulds from the centre of the ejected candle to the aperture of the tip mould; then let the moulds be again filled with melted tallow, which, when cold, the wicks of the first ejected candles are severed at the right length, and the clamps removed with the candles, which are dropped out in any desired position, and the clamps returned to their place over the moulds, ready to receive the candles, which have been clipped at the buts, and are ready for injection as before; instead of moving the pistons, the moulds might be moved, and accomplish the same end.

JOHN STAINTHORP.

In presence of—
CHAS. MONNING,
S. P. KETTLE.
Witnesses.

Received and filed Nov. 18, 1853.

S. B. D.

490 To the Commissioner of Patents:

The petition of John Stainthorp, of the city of Buffalo, in the county and State of New York, respectfully represents: That he has made certain additional improvements in the mode and manner of manufacturing mould candles, in addition to my caveat, issued from your office on the 16th day of Nov., 1853, and that I am now engaged in making experiments for the purpose of perfecting the same, preparatory to my applying for letters patent therefor. I therefore pray that the subjoined description of my invention may be filed as a caveat in the confidential archives of the Patent Office, agreeably to the provisions of the act of Congress in that case made and provided, I having paid twenty dollars into the treasury of the United States, and otherwise complied with the requirements of said act.

JOHN STAINTHORP.

Dated Dec'r 22, 1854.

Specification.

My additional improvement, above referred to, consists in moving my hollow pistons by one lever motion, preparatory to the discharge of the candle from the mould into the wooden holder and receiver at the top, and leaving the candle in a perpendicular position over the mould; and I also cut and form the mould in a shape at the top, enabling me to lift the candle with a part of the top of the mould and mould stand.

JOHN STAINTHORP.

Additional paper to caveat received and filed December 24, 1853.
S. T. SHUGERT.

STATE OF NEW YORK, *Erie county, city of Buffalo, ss:*

John Stainthorp, of the city of Buffalo, in said county, being duly sworn according to law, deposes and says: That he is a citizen
491 of the United States of America, and that, according to the best of his knowledge and belief, he is the original and first discoverer of the machine and manner and mode of making candles described in his caveat, now in the United States Patent Office, at the city of Washington, D. C.

JOHN STAINTHORP.

Subscribed and sworn before me, this 22d day of November, 1853.
H. B. BURT,
Justice of the Peace.

(Endorsed.)—Received and filed Nov. 25, 1853.
S. T. SHUGERT.

Affidavit of John Stainthorp.
App'd Nov. 18, 1854.

CAVEAT.

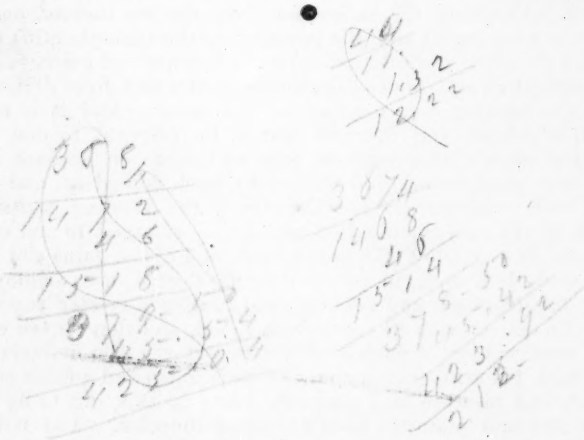
No.
John Stainthorp,
Of Buffalo,
County of Erie,
State of New York.

Imp't in machinery for moulding candles.

Recd. Novr. 18, 1853.
Petition, " " "
Affidavit, " 25, "
Specification, Nov. 18, 1853.
Drawing.
Model.
1 Cert. dep. $20. Nov. 18, 1853.
Cash.
Examined.
Issue.
3 patented 185 .
Recorded, vol. , page .
Letter, 18 Nov., 1853.

492 At a special term of the circuit court of the United States of America for the northern district of New York, in the second circuit, held at the clerk's office, in Utica, on Saturday, the 18th day of June, in the year of our Lord one thousand eight hundred and sixty-four. Present, the honorable Nathan K. Hall, judge.

JOHN STAINTHORP and STEPHEN SEGUINE
vs.
WILLIS HUMISTON. } In equity.

This cause having been argued on the pleadings and proofs therein by Mr. George Gifford for the plaintiffs, and by Messrs. M. P. Norton and J. B. Gale for the defendant, and due deliberation had thereon, it is ordered, adjudged, determined, and decreed, and this court, by virtue of the power and authority therein vested, doth order, adjudge, determine, and decree, that the patent referred to in the bill of complaint in this cause granted by the United States to the plaintiff John Stainthorp, for a new and useful improvement in machines for making candles, and bearing date the sixth day of March, 1855, is a good and valid patent; that the said plaintiff at the time of the commencement of this suit were the legal owners of such patent; that the said defendant has infringed the exclusive rights of said plaintiff under said patent by the use and em-
493 ployment, and making and vending of the combination and device claimed in the first claim of the specification annexed to such patent, and that said plaintiffs are entitled to a permanent injunction to restrain the defendant from the use thereof, and to a decree for an account and the payment to the said plaintiffs of the gains and profits of the said defendant in the use and employment of such combination and device so patented to the said John Stainthorp, and in the making and vending of the same. And it is further ordered, adjudged, and decreed that it be referred to one of the standing masters of this court to take and state an account of the use of such combination and device by such defendant, and of the making and constructing, and likewise of the vending to others to be used, of the said combination and device referred to and claimed in the said first claim of the said patent, and of the gains and profits of the said defendant, in or by reason of said use, employment, making, constructing, and vending, and that such master report the same to this court with all convenient speed, and that on the coming in and confirmation of such master's report the said defendant pay to the said plaintiffs the amount of such gains and profits so to be reported, and also the said plaintiffs' costs in this suit to be taxed, and that the said plaintiffs have execution therefor. And it is further ordered, adjudged, determined, and decreed that a permanent injunction issue out of and under the seal of this court, directed to the said defendant, his servants, workmen, and agents, restraining and rejoining them, and each of them, from the further viola-
494 tion or infringement in any manner whatsoever of the said let-

ters patent of the United States so as aforesaid granted to the said John Stainthorp, and especially from the use or employment of the combination and device claimed in the first claim of said patent, and from making, or constructing, or using, or vending to others to be used, any machines for making candles containing said device or combination. And it is further ordered, adjudged, determined, and decreed that all proceedings on the part of said plaintiffs on or under this decree shall be staid until they have paid or tendered to the said defendant or his attorney the sum of one hundred dollars, and also paid or offered to pay the amount of the fees of the witnesses examined in this case on the part of the said defendant for the purpose of proving the alienage of the plaintiff Stainthorp, and also the fees of the officer or officers for taking the testimony of such witnesses, the payment thereof being required as the terms and conditions on which the said were allowed *were allowed* to read as evidence in this (after the agreement thereof by the defendant's counsel had proceeded for some time) a record of the naturalization of said Stainthorp. And all other and further questions are reserved until the coming in and confirmation of the said master's report.